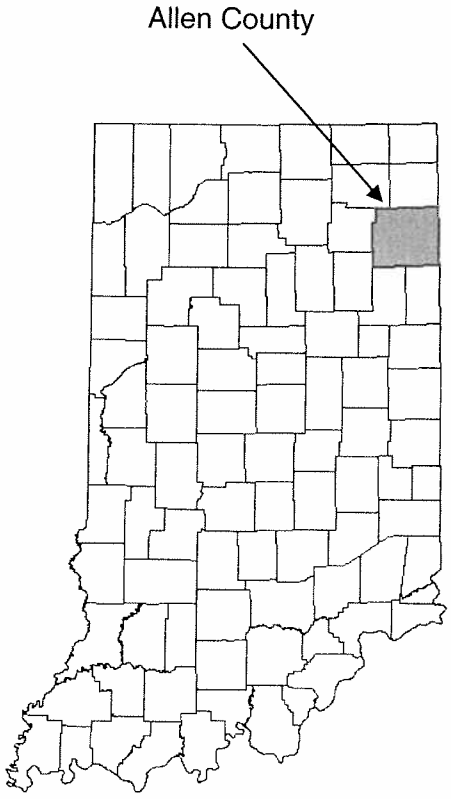
FLOOD INSURANCE STUDY

VOLUME 1 OF 3

ALLEN COUNTY, INDIANA

AND INCORPORATED AREAS

Community Name	*Community Number*
Allen County (Unincorporated Areas)	180302
Fort Wayne, City of	180003
Grabill, Town of	180499
Huntertown, Town of	180005
Leo-Cedarville, Town of	180518
Monroeville, Town of	180498
New Haven, City of	180004
Woodburn, City of	180500



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Preliminary:

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER

18003CV001B

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) report may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS report components.

Initial Countywide FIS Effective Date: September 28, 1990

Revised Dates: To Be Determined
November 5, 2003
March 2, 1998
February 16, 1995

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FLOOD INSURANCE STUDY
ALLEN COUNTY, INDIANA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study (FIS) revises and updates information on the existence and severity of flood hazards in the geographic area of Allen County, including the Cities of Fort Wayne, New Haven, and Woodburn; the Towns of Grabill, Huntertown, Leo-Cedarville, and Monroeville; and the unincorporated areas of Allen County (referred to collectively herein as Allen County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

For the original September 28, 1990, countywide FIS (Reference 1), the hydrologic and hydraulic analyses were prepared by the U.S. Army Corps of Engineers (USACE), Detroit District, for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. IAA-H-7-76 and No. IAA-H-10-77, Project Order Nos. 7, 1, and 26. That study was completed in March 1981. Additional analyses were performed by the USACE, Detroit District, for FEMA under Inter-Agency Agreement No. EMW-85-E-1822, Project Order No. 1, Amendment No. 7. That study was completed in January 1987. Other hydrologic and hydraulic analyses were performed by the Indiana Department of Natural Resources (IDNR) and the USACE, Louisville District.

For the revision dated February 16, 1995 (Reference 2), the hydraulic analyses for the Maumee River, the St. Marys River, the St. Joseph River, and Spy Run Creek

were prepared by Christopher B. Burke Engineering, Ltd. That work was completed in April 1993.

For the revision dated March 2, 1998 (Reference 3), the hydraulic analyses were prepared by Christopher B. Burke Engineering, Ltd. That work was completed on September 25, 1996.

For the revision dated November 5, 2003 (Reference 4), the hydrologic and hydraulic analyses for the Maumee River, the St. Marys River, the St. Joseph River, Cedar Creek, and Little Cedar Creek were submitted by Christopher B. Burke Engineering, Ltd., on behalf of the IDNR and the Maumee River Basin Commission (MRBC) for FEMA. The work for Cedar Creek and Little Cedar Creek was completed on December 30, 1999. The work for the Maumee River was completed on March 3, 2000. The work for the St. Joseph River was completed on August 4, 2000. The work for the St. Marys River was completed on August 10, 2000.

For this revision, the hydrologic and hydraulic analyses for Durnell Ditch and St. Marys River were submitted by Christopher B. Burke Engineering, Ltd., on behalf of the IDNR and the MRBC for FEMA. The work for the Durnell Ditch was completed in June 2006 and St. Marys River was completed in March 2006.

1.3 Coordination

For the September 28, 1990, FIS report, community base map selection and the identification of streams requiring detailed study were established in a meeting attended by personnel of the USACE, Detroit District, FEMA, the IDNR, and local county officials on January 8, 1975.

On September 29, 1989, the results of the study were reviewed and accepted at a final Consultation Coordination Officer (CCO) meeting attended by representatives of the USACE, Detroit District, the IDNR, FEMA, and the community.

For the November 5, 2003, revision, a final CCO meeting was held on February 20, 2002. This meeting was attended by representatives of the study contractors, the communities, the State of Indiana, and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Allen County, Indiana, including the incorporated communities listed in Section 1.1. The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of

projected development or proposed construction through August 2000. All streams except for Reichelderfer Ditch were redelineated based on updated topography (Reference 5) for this revision.

The flooding sources studied by detailed methods are shown in the following tabulation. Limits of detailed study are shown on the Flood Profiles (Exhibit 1) and on the Flood Insurance Rate Map (FIRM).

Originally studied in detail by the USACE, Detroit District

Adam Schlemmer-Baker Ditch
Adams Ditch
Becketts Run
Huguenard No. 2
Beightle Nettlehorst Ditch
Benward Ditch
Black Creek
Bobay Ditch
Brindle Ditch
Brown Ditch
Brown No. 2
Bullerman Branch
Bullerman Ditch
Cedar Creek
Davis No. 2 Ditch
Doctor Ditch
Doctor Ditch Tributary
Edgerton Carson Ditch
Eightmile Creek
Fairfield Ditch
Flatrock Creek
Geller Ditch
Grice Ditch
Haifley Ditch
Hatch Ditch
Hetrick Ditch
Houk Ditch
Johnson Ditch
Junk Ditch
Koester Ditch
Kramer Ditch
Lawrence Branch
Little Cedar Creek
Marion Ditch
Marsh Ditch
Maumee River
Maxheimer Creek
Drain No. 6
Whitmer Ditch
Natural Drain No. 3
Natural Drain No. 7 Unnamed Tributary
Paul Trier Ditch
Pierson No. 2
Pierson Ditch
Reichelderfer Ditch
Ringwalt Ditch
Roy Delagrange Ditch
Salagy Ditch
Schoppman Ditch
Smith-Northrup Drain
St. Joseph River
St. Marys River
Studebaker Ditch
Sumner Drain
Swift Ditch
Tiernan Ditch
Trier Branch
Trier Ditch
Unnamed Tributary No. 1
Waters Ditch
Willow Creek
Willow Creek Branch No. 7
Willow Creek Branch No. 8

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Studied in detail by the USACE, Louisville District

Aboite Creek
Beal Taylor Ditch
Bichacoff Ditch
Big Indian Creek
Brindle Ditch
Durnell Ditch
Flaugh Ditch
Graham McCulloch Ditch
Little River
Natural Drain No. 7
Robinson Creek
Seegar Creek
Suter Ditch
Woods Ditch

Taken from an Soil Conservartion Service (SCS) report (Reference 6) and later revised by the IDNR

Bender Ditch
Dannenfelser-Cochoit Ditch
Dennis Ditch
Drain No. 6
Harber Ditch
Lowther Neuhaus Ditch
Mowrer Ditch
Natural Drain No. 2
Revert Ditch
Schmidt Ditch
Sixmile Creek
Snyder Ditch
Spy Run Creek

Also revised by the IDNR

Aboite Creek
Adam Schlemmer-Baker Ditch
Beal Taylor Ditch
Becketts Run
Beightle Nettlehorst Ditch
Benward Ditch
Bercot Drain
Bichacoff Ditch
Big Indian Creek
Black Creek
Bobay Ditch
Brindle Ditch
Brown Ditch
Bullerman Branch
Bullerman Ditch
Cedar Creek
Doctor Ditch
Durnell Ditch
Edgerton Carson Ditch
Ely Run
Fairfield Ditch
Flatrock Creek
Flaugh Ditch
Geller Ditch
Graham McCulloch Natural Drain No. 7
Haifley Ditch
Hatch Ditch
Houk Ditch
Johnson Ditch
Junk Ditch
Koester Ditch
Kramer Ditch
Langley Ditch
Little Cedar Creek
Marsh Ditch
Martin Ditch at St. Joseph River
Maumee River
Natural Drain No. 3
Natural Drain No. 6
Natural Drain No. 7
Paul Trier Ditch
Pierson Drain
Reichelderfer Ditch

Also revised by the IDNR (continued)

Ringwalt Ditch
Robinson Creek
Roy Delagrange Ditch
Salagy Ditch
Schoppman Drain
Seegar Creek
Smith-Northrup Drain
Snyder Ditch
St. Joseph River
St. Marys Flowage
St. Marys River
Sumner Drain
Suter Drain
Swift Ditch
Tiernan Ditch
Trier Ditch
Unnamed Tributary No. 1
Waters Ditch
Whitmer Ditch
Willow Creek
Willow Creek Branch No. 7
Willow Creek Branch No. 8
Witzgall Ditch
Woods Ditch

For this countywide FIS report, the vertical datum was converted from the National Geodetic Vertical Datum of 1929 (NGVD29) to the North American Vertical Datum of 1988 (NAVD88). In addition, the Universal Transverse Mercator coordinates, previously referenced to the North American Datum of 1927, are now referenced to the North American Datum of 1983. Also, Durnell Ditch was revised from approximately 210 feet upstream of Interstate Highway 69 to Pointe Inverness Way and the St. Marys River was revised from the confluence of Paul Trier Ditch to South County Line Road East.

Approximate analyses were used to study those areas having low development potential or minimal flood hazards. The scope and methods of study were proposed to and agreed upon by FEMA.

2.2 Community Description

Allen County, the largest county in Indiana, with an area of approximately 671 square miles is in northeastern Indiana with its east edge bordering Ohio. Allen County is bounded by DeKalb and Noble Counties, Indiana, on the north; Whitley and Huntington Counties, Indiana, on the west; Wells and Adams Counties, Indiana, on the south; and Defiance, Paulding, and Van Wert Counties, Ohio, on the east. Allen County is served by U.S. Highways 27, 30, 33, and 69; by State Highways 1, 3, 14, and 37; Interstate Highway 69; and by CSX and Norfolk Southern Railroad. The 2000 census population of Allen County was reported to be 331,849 (Reference 7).

The largest urban center in Allen County is the City of Fort Wayne. Fort Wayne's importance is principally attributable to its location at the junction of the St. Joseph and the St. Marys Rivers, forming the headwaters of the Maumee River. Approximately 3 miles east of Fort Wayne is the City of New Haven which may be considered as part of the greater Fort Wayne metropolitan area.

The City of Woodburn and the Town of Monroeville area also east of Fort Wayne; to the north are the Towns of Huntertown and Grabill, and the Town of Leo-Cedarville; to the west are the communities of Wallen and Arcola; and to the south are the communities of Hessen Cassel and Hoagland.

Allen County, primarily because of its location, has achieved prominence as a progressive and rapidly growing area in northeastern Indiana. The area rests upon the continental divide that separates the Great Lakes' headwaters from those of the Wabash River. The advent of the Wabash-Erie Canal in the mid-1800s facilitated travel between the Great Lakes and the Mississippi River. Rail travel increased the convenience and economy of moving goods and services and hastened the area's expansion into the commercial, industrial, agrarian, and cultural community it is today.

The topography of the St. Joseph River and the St. Marys River basins is typical of the entire Maumee River basin, ranging from flat plains to rolling hills of low relief. The prominent features of the landscape are three terminal moraines which set the wedge-shaped pattern of the Maumee River drainage basin. The westernmost moraine extends in a rough crescent outline from Hillsdale County, Michigan, through the vicinity of Fort Wayne, Indiana, to New Bremen, Ohio. This moraine forms the northwest and southwest divide of the Maumee River watershed. The second moraine lies east of the first and follows its general direction to form the divide which separates the valleys of the St. Joseph and St. Marys Rivers from those of the Tiffin and Auglaize Rivers. The third lies a few miles east of the second and forms the eastern limits of the Tiffin River valley and the northeastern edge of the Auglaize River basin.

The basins of the St. Marys and St. Joseph Rivers are long and narrow and, in general, the topography can be termed flat to rolling except in the headwaters areas of the St. Joseph basin where there are gravelly, low, sandy ridges and numerous small lakes.

The area's climate varies greatly during the year from freezing temperatures in winter to hot and humid weather in the summer. The seasonal range of temperature is a daily winter minimum of approximately 20 degrees Fahrenheit (°F) to a daily summer maximum of approximately 85°F. The average annual temperature is 50°F. Annual precipitation varies from approximately 35.3 inches at Fort Wayne to 37.5 inches at Huntington and is well distributed throughout the year (Reference 8).

Peak runoff amounts in small local basins typically are generated by thunderstorm rains during the summer months. Rain or snow or frozen ground occasionally results in peak flooding during winter months in small basins and such rains and/or snowmelts in winter or early spring are the major contributory causes of peak annual flooding along the large streams (Reference 8).

In general, development in the floodplain in Allen County is residential, commercial, industrial, and agricultural. Presently, the riverfront property along the Maumee, St. Marys, and St. Joseph Rivers in the sandy area consists of residential, commercial, industrial, agricultural, and public developments (Reference 9). Most of the floodplain within the reach of the Little River is undeveloped land. Agricultural uses predominate with a scattering of residential units (Reference 10). The land in southernmost Allen County is relatively undeveloped, except the Town of Monroeville which consists predominantly of housing developments. Areas adjacent to Fort Wayne are almost totally converted from agricultural to urban use or are undergoing a transition. The most intensive development is expected to occur in the Township of Aboite. The land along Cedar and Willow Creeks consists of residential, commercial, and public developments.

2.3 Principal Flood Problems

Generally, crucial floods occur with heavy winter and spring rains coupled with snowmelt. The most notable floods have occurred when frontal storms of great intensity, long duration, and widespread aerial extent, occur over the St. Joseph River and St. Marys River basins. Repeated instances of flooding have been reported in the Fort Wayne Journal Gazette dating back to 1913. The major floods in Allen County during past years occurred in March 1913, May 1943, February 1959, December 1967, May 1968, March 1978, and March 1982.

The greatest flood occurred in March 1913 and was approximately equal to the 0.2-percent-annual-chance frequency flood on the St. Joseph River, greater than the 0.2-percent-annual-chance flood on the St. Marys River, and approximately equal to the 2-percent-annual-chance flood on the Maumee River.

During the March 1913 flood, an equivalent uniform depth of precipitation of 5.7 inches fell over the Maumee River basin in 72 hours resulting in an estimated 28,000 cubic feet per second (cfs) peak discharge on the Maumee River at New Haven. This peak was slightly larger than the 1-percent-annual-chance peak.

The greatest flood since March 1913 occurred along the St. Marys, St. Joseph, and Maumee Rivers on March 15-17, 1982. The U.S. National Weather Service (NWS) reported that the snow accumulation in northern Indiana at the time of this flood event had a snowmelt water equivalent of 3 to nearly 7 inches. Further, the NWS reported that above-normal precipitation amount of 3 to 6 inches kept rivers flooding for an extended period of time. The St. Marys gage near Fort Wayne reached a peak stage of 19.64 feet on March 15, 1982, with an estimated discharge of 13,000 cfs. The St. Joseph River crested on March 17, 1982, with a peak discharge of 13,000 cfs. The Maumee River at the New Haven gage reached a record stage of 25.05 feet and a discharge of 26,500 cfs. These discharges represent floods with an estimated frequency occurrence of 1.3-percent-annual-

chance on the Maumee River, 2.9-percent-annual-chance on the St. Marys River, and 0.7-percent-annual-chance on the St. Joseph River.

The second greatest flood since March 1913 occurred on March 24, 1978. Peak discharges of 22,400, 13,600, and 10,100 cfs were recorded on the Maumee River, the St. Marys River, and the St. Joseph River, respectively. These discharges represent floods with an estimated frequency of occurrence of 4-percent-annual-chance on the Maumee River, 2.2-percent-annual-chance on the St. Marys River, and 6.6-percent-annual-chance on the St. Joseph River.

The May 1943 flood had a peak of 21,000 cfs, making it approximately equal to a 5.9-percent-annual-chance flood. The February 1950 flood had a peak of 19,000 cfs or slightly less than the 10-percent-annual-chance flood peak. Another flood occurred in February 1959 and was measured as slightly smaller than the 10-percent-annual-chance flood with a peak of 18,900 cfs.

The Spy Run and Flaugh Ditch area showed damages as a result of headwater flooding. Undersized bridges and culverts, points of trash and debris accumulation, and points of reduced floodway flow area increased flood levels and resulting damages. Many basements were flooded due to sewer problems.

Aside from headwaters flooding, high stages on receiving streams can increase flood levels in the downstream reaches of the tributary streams thereby increasing property damage. Ice jams can cause problems at bridges and other restrictions by blocking the normal flows.

2.4 Flood Protection Measures

In the City of Fort Wayne, a small levee was constructed from north of State Boulevard along the left bank of the St. Joseph River and continued along the left bank of the Maumee River below Anthony Boulevard. The region protected is known as Lakeside.

Following the 1913 flood, the levee was raised (about 2 feet above the 1913 flood elevation) and was extended north and just east of Pemberton Drive, from the Maumee River to Lake Avenue. In 1916, a concrete floodwall was constructed along St. Joseph Boulevard, from the Tennessee Street bridge to slightly south of McDougall Street. The levees meet the minimum standards to be certified to provide protection from the 1-percent-annual-chance flood. In 1956, a program of rehabilitation was undertaken. Low spots were raised, maintaining the dike 2 feet above the 1913 flood, and a concrete floodwall about 725 feet in length was constructed north along St. Joseph Boulevard starting at the State Boulevard bridge. Scattered low levees have been constructed along other reaches of the rivers, but they protect only against low flood stages.

Several structures inherent in the Cedarville Reservoir and a small dam on Cedar Creek just downstream of its confluence with Little Cedar Creek were designed for reservoir detention and offer no flood protection.

The State of Indiana has set regulations concerning development in a floodplain. The Indiana Flood Control Act of 1945 (Reference 11) as amended, requires that the channels and that portion of the floodplain known as the floodway be kept free and clear of interference or obstructions which could restrict the flow rate in a significant manner. The Act stipulates that the Indiana Flood Plain Management Act of 1973 further requires that floodplain management regulations adopted after July 1, 1974, need a minimum set of standards for the delineation and regulation of flood hazard areas.

The City of New Haven Planning Commission has passed a zoning ordinance defining permissible development in a floodplain. All uses allowed in agricultural zoning districts are permitted "except that the erection or alteration of any building or structure for residential purposes is prohibited" (Reference 11).

No county zoning ordinances, building codes, or other regulatory measures exist specifically for the reduction of flood damages.

Levees exist in the study area that provide the community with some degree of protection against flooding. However, it has been ascertained that some of these levees may not protect the community from rare events such as the 1-percent-annual-chance flood. The criteria used to evaluate protection against the 1-percent-annual-chance flood are adequate design including freeboard, structural stability, and proper operation and maintenance. Levees that do not protect against the 1-percent-annual-chance flood are not considered in the hydraulic analysis of the 1-percent-annual-chance floodplain.

The February 16, 1995, revisions reflect the flood mitigation benefits provided by the Maumee River Flood Control Project. The project consists of an excavated storage channel, 150-foot wide, constructed parallel to the Maumee River, extending approximately 2.7 miles along the left descending overbank.

A dam has been constructed on the Maumee River approximately 300 feet upstream of Anthony Boulevard.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and

500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance (100-year) flood in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community.

September 28, 1990, Countywide FIS

A discharge-frequency relationship was established for each U.S. Geological Survey (USGS) gage and each NWS gage on the St. Joseph River, the St. Marys River (from confluence with Maumee River to the confluence of Paul Trier Ditch), Cedar Creek, the Little River, and the Maumee River within the vicinity of the Cities of Fort Wayne and New Haven and Allen County, Indiana (References 12 and 13).

Basic data used in the construction of the frequency curves consist of stream gaging records from the following NWS gages (References 12 and 13).

Gaged Stream	Location	Gaged Number
Maumee River	Anthony Boulevard	(NWS)
	New Haven	04183000
	Antwerp	04183500
St. Joseph River	Fort Wayne	(NWS)
	Cedarville	04179000
	Newville	04178000
St. Marys River	Fort Wayne	04182000
	Decatur	04181500
Cedar Creek	Cedarville	04180000
Little River	Huntington	03324000

For most ungaged streams, coordinated discharges provided by the IDNR were used for hydrologic analyses (Reference 14). These discharges were coordinated between the SCS, the USGS, and the USACE.

For other streams such as Black Creek, Houk Ditch, Martin Ditch, Smith-Northrup Drain, Beightle Nettlehorst Ditch, Kramer Ditch, and Lawrence Branch, which have no coordinated discharges, the IDNR provided coordinated discharges.

Junk Ditch is a unique stream in that flows are reversed during periods of high flows on the St. Marys River. Due to the unique characteristics of Trier Ditch, a separate hydrologic analysis was necessary. Trier Ditch, a tributary to the Maumee River, and Paul Trier Ditch, a tributary to the St. Marys River, are two separate streams separated by a low divide that is breached during high flows from the 0.2-percent-annual-chance flood in the St. Marys River.

Discharges on Durnell Ditch downstream of Norfolk Southern Railroad, and Flaugh Ditch downstream of Norfolk Southern Railroad, decrease downstream due to the storage behind a road structure.

March 2, 1998, Revision

The hydrologic analysis was used to extend the hydraulic model for Roy Delagrange Ditch upstream of Auburn Road. The 1-percent-annual-chance peak discharges were determined at various upstream locations. A Coordinated Discharge Curve was used to obtain various 1-percent-annual-chance discharge values for specified drainage areas.

November 5, 2003, Revision

The source for the peak discharge input to the hydraulic models was the IDNR "Coordinated Discharges." The IDNR "Coordinated Discharges" are discharge versus drainage area relationships that have been reviewed and approved by the USGS, IDNR, and the Natural Resources Conservation Service (NRCS). A plot of discharge versus drainage area was developed by IDNR for the study reaches based on both the gaging stations analyses and HEC-1 models prepared in the early stages of the MRBC watershed modeling efforts. The plot was used to determine flood flows at desired locations along the stream.

Discharges on Fairfield Ditch downstream of Lower Huntington Road to the confluence with St. Marys River decreased due in the entire Fairfield Ditch/Harber Ditch watershed.

This Revision

For St. Marys River, from approximately 3,500 feet upstream of Interstate Highway 469 to South County Line Road East, discharges were based on the coordinated discharge curve for the St. Marys River in Allen and Adams counties. Discharges for Durnell Ditch were not revised.

Peak discharge-drainage area relationships for Allen County are shown in Table 1.

Table 1 - Summary of Discharges

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
ABOITE CREEK					
At confluence with Little River	52.20	3,300	4,550	5,300	6,900
Just downstream of confluence of Big Indian Creek	45.70	2,980	4,100	4,780	6,250
Just upstream of confluence of Big Indian Creek	35.40	2,590	3,570	4,120	5,350
Just downstream of Aboite Center Road	31.30	2,400	3,300	3,800	4,950
BEAL TAYLOR DITCH					
At confluence with Aboite Creek	31.30	2,400	3,300	3,800	4,950
Just downstream of State Highway 14 / Illinois Road	9.96	1,090	1,540	1,770	2,320
Just downstream of Noyer Road South	2.50	900	1,280	1,470	1,950
ADAM SCHLEMMER-BAKER DITCH					
At confluence with Flatrock Creek	8.40	1,000	1,400	1,590	2,000
At Flatrock Road	7.46	920	1,300	1,460	1,860
Just upstream of confluence of Brown Ditch	6.18	810	1,140	1,300	1,650
ADAMS DITCH					
At confluence with Bender Ditch	1.50	320	460	530	670
BECKETTS RUN					
At confluence with St. Joseph River	9.70	1,100	1,540	1,740	2,200
Just upstream of Interstate Highway 69	9.28	1,070	1,500	1,700	2,180
Just upstream of Auburn Road	7.16	900	1,260	1,420	1,800

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
BECKETTS RUN (CONT'D)					
Just upstream of Coldwater Road	4.93	700	990	1,120	1,430
Just downstream of confluence of Huguenard No. 2	2.88	490	700	785	1,000
HUGUENARD NO. 2					
At confluence with Becketts Run	1.09	260	370	415	530
BEIGHTLE NETTLEHORST DITCH					
At confluence with St. Joseph River	3.20	530	750	840	1,070
At Hosler Road	2.32	430	600	680	870
BENDER DITCH					
At confluence with Dannenfelser-Cochoit Ditch	9.21	960	1,450	1,700	2,300
Just downstream of Moeller Road	6.71	960	1,450	1,700	2,300
Just upstream of Seiler Road	4.27	620	890	1,000	1,300
BENWARD DITCH					
At confluence of Bobay Ditch	2.27	420	590	670	860
At Wallen Road West	1.65	340	480	545	700
At U.S. Highway 33 / Goshen Road	1.50	325	455	515	655
BICHACOFF DITCH					
At confluence with Aboite Creek	5.10	700	1,000	1,140	1,510
Just downstream of West County Line Road South	4.60	660	930	1,070	1,420
BIG INDIAN CREEK					
At confluence with Aboite Creek	9.20	1,030	1,460	1,690	2,220
BLACK CREEK					
At confluence with Maumee River	4.88	700	980	1,110	1,420
Just downstream of Notestine Road	2.63	465	660	710	950
Just downstream of State Highway 37	2.09	400	560	635	810
BOBAY DITCH					
At confluence with Benward Ditch	3.13	520	740	830	1,060
At Fritz Road	2.03	390	550	620	800
Approximately 4,400 feet upstream of Fritz Road	1.31	295	415	470	600

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
BROWN DITCH					
At confluence with Adam Schlemmer-Baker Ditch	3.17	525	740	840	1,070
BULLERMAN BRANCH					
At confluence with Bullerman Ditch	1.30	290	410	460	590
BULLERMAN DITCH					
At confluence with Maumee River	7.20	860	1,250	1,440	1,920
CEDAR CREEK					
At confluence with St. Joseph River	273.00	4,900	*	6,200	*
At confluence of Little Cedar Creek	230.20	4,150	*	5,200	*
Just upstream of confluence of Little Cedar Creek	158.50	2,800	*	3,700	*
DANNENFELSER-COCHOIT DITCH					
At confluence with Trier Ditch	7.10	1,500	2,150	2,500	3,200
Just downstream of Green Road	5.08	880	1,250	1,400	1,800
Just upstream of confluence of Dennis Ditch	1.54	320	460	520	680
DENNIS DITCH					
At confluence with Dannenfelser-Cochoit Ditch	2.30	420	600	680	880
DEPTMER DITCH					
At confluence with Harber Ditch	7.65	920	1,300	1,500	2,000
At Yoder Road East	5.39	730	1,050	1,200	1,600
DOCTOR DITCH					
At confluence with Trier Ditch	2.26	420	590	670	860
Just upstream of confluence of Doctor Ditch Tributary	1.29	290	410	465	600
DRAIN NO. 6					
At confluence with Lowther Neuhaus Ditch	2.64	460	650	750	960
DURNELL DITCH					
Just upstream of Jefferson Boulevard West	3.50	560	790	890	1,180
Just downstream of Goodrich Road	1.50	190	230	250	300

*Data not available

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
DURNELL DITCH (CONT'D)					
Just downstream of Norfolk Southern Railway	0.90	100	110	120	135
Just upstream of Norfolk Southern Railway	0.73	200	280	325	420
EDGERTON CARSON DITCH					
At confluence with Marsh Ditch	7.88	960	1,350	1,520	1,950
EIGHTMILE CREEK					
Approximately 11,615 feet upstream of confluence with Little River	80.00	4,350	6,200	6,900	8,900
Just upstream of Yoder Road West	71.70	4,050	5,750	6,450	8,200
WITZGALL DITCH					
At confluence with Eightmile Creek	10.71	1,175	1,650	1,870	2,400
Just upstream of confluence of Johnson Ditch	5.13	720	1,020	1,150	1,460
ELY RUN					
At confluence with St. Joseph River	9.49	1,080	1,520	1,720	2,200
At Tonkel Road	8.39	1,000	1,400	1,590	2,000
At Diebold Road	6.38	830	1,170	1,320	1,690
Just upstream of confluence of Roy Delagrange Ditch	3.11	520	730	830	1,060
FAIRFIELD DITCH					
At confluence with St. Marys River	22.90	830	1,220	1,370	1,780
HARBER DITCH					
Approximately 750 feet upstream of Ferguson Road West	16.60	1,540	2,180	2,500	2,800
At Norfolk Southern Railway	3.40	540	770	880	1,010
FLATROCK CREEK					
At Hoffman Road	44.03	2,950	4,180	4,700	6,000
At Monroeville Road	43.20	2,900	4,120	4,650	5,950
Just upstream of confluence of Adam Schlemmer-Baker Ditch	34.80	2,520	3,580	4,020	5,100
GELLER DITCH					
Just upstream of Hand Road	3.77	590	830	940	1,200
At State Highway 3 / Lima Road	1.23	280	400	450	580
GRAHAM McCULLOCH DITCH					
At Old Railroad Grade	11.30	1,180	1,680	1,920	2,530

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
FLAUGH DITCH					
At confluence with Graham McCulloch Ditch	5.90	780	1,100	1,260	1,670
Just upstream of Jefferson Boulevard West	4.40	420	610	700	930
Just upstream of Illinois Road	3.30	300	460	530	700
Just downstream of Norfolk Southern Railroad	3.10	210	320	375	490
Just upstream of Norfolk Southern Railroad	3.10	510	720	820	1,100
Approximately 1,055 feet upstream of Interstate Highway 69	1.70	350	490	560	740
GRAHAM McCULLOCH NATURAL DRAIN NO. 7					
At confluence with Graham McCulloch Ditch	3.00	500	800	950	1,050
HAIFLEY DITCH					
At confluence with Whitmer Ditch	1.81	365	510	580	740
HOUK DITCH					
Just upstream of Flatrock Road	4.71	680	960	1,100	*
Just upstream of Minnich Road	4.22	630	900	1,010	*
Just upstream of Hoagland Road	3.66	570	820	930	*
JOHNSON DITCH					
At confluence with Witzgall Ditch	4.84	700	980	1,110	1,420
JUNK DITCH					
At confluence with St. Marys River	*	*	*	*	*
KRAMER DITCH					
At confluence with St. Joseph River	1.27	290	410	470	520
LAWRENCE BRANCH					
Just upstream of Covington Road	1.39	300	430	480	635
Just upstream of Wilke Drive	1.30	290	410	460	605
LITTLE CEDAR CREEK					
At confluence with Cedar Creek	72.20	2,560	*	4,450	*

*Data not available

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
LITTLE RIVER					
Approximately 5,300 feet downstream of confluence of Aboite Creek	49.80	2,150	*	2,730	*
LOWTHER NEUHAUS DITCH					
At confluence with Spy Run Creek	4.75	670	950	1,100	1,400
MARSH DITCH					
At confluence with Maumee River	15.20	1,150	1,640	1,800	2,330
Just downstream of State Highway 101 / Fahlsing Road	5.42	460	650	720	930
MARTIN DITCH					
At confluence with Maumee River	10.60	1,140	1,600	1,850	2,500
At Rose Avenue	10.10	1,105	1,550	1,800	2,420
Just upstream of the confluence of Henry Bandelier Ditch	8.70	660	960	1,100	1,440
MARTIN DITCH AT ST. JOSEPH RIVER					
At confluence with St. Joseph River	2.03	390	550	630	790
MAUMEE RIVER					
At Antwerp, Ohio, gage	2,129.00	20,350	*	28,400	*
At New Haven gage	1,967.00	20,100	*	28,100	*
ST. MARYS RIVER					
Just downstream of confluence of Paul Trier Ditch	762.00	10,300	*	15,700	*
Just upstream of confluence of Paul Trier Ditch	744.00	10,200	*	15,400	*
Approximately 5,160 feet upstream of Hoagland Road	737.00	10,000	*	15,200	*
MOWRER DITCH					
At confluence with Koester Ditch	1.40	300	420	480	620
NATURAL DRAIN NO. 2					
At confluence with Spy Run Creek	2.64	460	690	750	950

*Data not available

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
NATURAL DRAIN NO. 7					
At confluence with Natural Drain No. 2	1.62	340	470	530	670
PAUL TRIER DITCH					
At confluence with St. Marys River	17.49	2,000	2,800	3,150	3,980
Just upstream of confluence of Houk Ditch	1.39	265	370	410	520
PIERSON DITCH					
At confluence with Maumee River	2.46	440	620	700	940
Just upstream of State Boulevard East	1.09	250	350	400	520
REICHELDERFER DITCH					
At confluence with Black Creek	1.80	365	510	580	740
Just downstream of Notestine Road	1.58	330	470	530	680
REVERT DITCH					
At confluence with Tiernan Ditch	1.08	260	360	420	570
RINGWALT DITCH					
At confluence with Willow Creek	1.52	115	150	169	200
ROBINSON CREEK					
At confluence with Little River	16.50	1,520	2,150	2,480	3,230
At confluence of Brindle Ditch	2.30	420	580	670	880
BRINDLE DITCH					
At confluence with Robinson Creek	2.30	420	580	670	880
ROY DELAGRANGE DITCH					
At confluence with Ely Run	2.97	500	710	800	1,020
At Auburn Road	2.03	390	550	620	800
SALAGY DITCH					
At confluence with St. Joseph River	2.52	450	640	720	920
At St. Joe Road	2.41	440	620	700	900
Just upstream of confluence of Davis Ditch No. 2	1.51	325	455	515	660
SCHMIDT DITCH					
At confluence with Bender Ditch	4.30	630	900	1,000	1,300
Just downstream of Paulding Road East	3.60	560	790	900	1,150
Just downstream of CSX	2.20	410	580	660	850

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
SCHOPPMAN DRAIN					
Just upstream of St. Joe Road	1.19	280	390	440	560
Just upstream of Meadowbrook Drive	1.11	265	370	420	540
SEEGAR DITCH					
At confluence with Beal Taylor Ditch	17.30	1,580	2,200	2,530	3,330
Just downstream of O'Day Road	6.20	800	1,130	1,300	1,710
Just downstream of U.S. Highway 30	3.20	510	720	820	1,100
SIXMILE CREEK					
At confluence with Maumee River	5.60	740	1,050	1,200	1,500
KOESTER DITCH					
At Schwartz Road	4.20	620	870	1,000	1,300
LANGLEY DITCH					
At confluence with Koester Ditch	2.00	380	540	620	800
SMITH-NORTHRUP DRAIN					
At confluence with St. Joseph River	1.33	295	420	480	600
SNYDER DITCH					
At confluence with St. Marys River	7.70	920	1,300	1,500	1,900
Just upstream of Dodane Road	6.48	820	1,150	1,350	1,700
Approximately 5,810 feet upstream of Dodane Road	4.10	590	840	960	1,250
At Winchester Road	3.00	500	710	810	1,050
SPY RUN CREEK					
At confluence with St. Marys River	15.30	1,450	2,050	2,350	3,000
ST. JOSEPH RIVER					
Just upstream of confluence of Cedar Creek	764.00	8,400	*	13,700	*
Approximately 1,300 feet upstream of Grabill Road	750.00	8,200	*	13,500	*
Just upstream of confluence of Metcalf Ditch	714.00	7,800	*	12,750	*
SUMNER DRAIN					
At confluence with St. Joseph River	2.08	395	560	630	800
At Stony Run Lane	1.37	310	430	480	610

*Data not available

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
SUTER DITCH					
At confluence with Robinson Creek	3.50	550	770	900	1,190
Just downstream of Coverdale Road	2.50	445	630	710	950
SWIFT DITCH					
At confluence with St. Joseph River	1.45	315	440	500	640
At Leo Road	1.30	290	415	465	600
TIERNAN DITCH					
At confluence with St. Joseph River	6.17	800	1,100	1,300	1,700
Just upstream of confluence of Revert Ditch	2.64	460	650	750	1,000
Just upstream of Schwartz Road	1.49	320	380	500	620
TRIER DITCH					
At Moeller Road	9.29	1,220	1,700	1,900	2,400
At CSX	7.36	1,000	1,400	1,580	1,990
Just upstream of confluence of Doctor Ditch	3.77	590	820	920	1,140
At Paulding Road East	1.87	335	465	520	660
UNNAMED TRIBUTARY NO. 1					
At confluence with St. Joseph River	1.30	293	410	475	630
WATERS DITCH					
At confluence with Becketts Run	1.13	265	370	420	540
WHITMER DITCH					
At confluence with St. Joseph River	4.78	690	970	1,100	1,400
Approximately 2,750 feet upstream of confluence of Haifley Ditch	1.05	250	360	400	520
WILLOW CREEK					
At confluence with Cedar Creek	30.73	1,110	1,420	1,580	1,860
Just upstream of confluence of Willow Creek Branch No. 8	9.06	440	570	625	750
At Lima Road / State Highway 3	8.39	420	540	590	710
Just downstream of confluence of Willow Creek Branch No. 7	4.13	245	320	350	420

Table 1 – Summary of Discharges (*Continued*)

Flooding Source and Location	Drainage Area (square miles)	Peak Discharges (cubic feet per second) 10-Percent-Annual-Chance	2-Percent-Annual-Chance	1-Percent-Annual-Chance	0.2-Percent-Annual-Chance
HATCH CREEK					
At confluence with Willow Creek	2.20	152	198	217	260
At Shoaff Road	1.03	86	113	124	150
WILLOW CREEK BRANCH NO. 7					
At confluence with Willow Creek	3.08	195	255	280	335
WILLOW CREEK BRANCH NO. 8					
At confluence with Willow Creek	17.94	740	950	1,050	1,230
Approximately 450 feet upstream of Shoaff Road West	16.66	700	900	996	1,160
Approximately 4,600 feet downstream of North County Line Road	8.62	430	550	600	720
WOODS DITCH					
At confluence with Robinson Creek	3.90	590	840	960	1,280
Just downstream of Hamilton Road West	2.10	395	555	635	845

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data Table in the FIS report. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS report in conjunction with the data shown on the FIRM.

September 28, 1990, Countywide FIS

Cross section geometry for the streams studied in detail in Allen County were developed by field surveys during the 1950s and from 1970-1971. All bridges were field measured to obtain elevation data and structural geometry. Cross sections for the backwater analysis were located at strategic points along the course of the streams and at close intervals upstream and downstream of bridges in order to compute significant backwater effects of those structures. The data was updated by 1984-1986 field surveys.

On streams revised by the IDNR, cross sections were field surveyed, or taken from Allen County, the City of Fort Wayne, and IDNR topographic maps (Reference 15).

Roughness coefficients (Manning's "n" values) for Trier Ditch were developed by reconstructing the March 1978 and March 1982 floods; and coefficients for Spy Run Creek were obtained from the March 1982 high water marks. For other streams, the roughness coefficients were estimated by field inspection, or by use of aerial photographs.

All water surface elevations (WSELs) except for Junk Ditch, St. Marys Overflow, and the Little River for the 10-, 2-, 1-, and 0.2-percent-annual-chance flood frequencies were developed through use of the USACE HEC-2 step-backwater model computer program (Reference 16). The water surface elevations (WSELs) for Junk Ditch and St. Marys River Overflow were determined by the IDNR. The WSELs for the Little River were obtained from the 1974 USACE Flood Plain Information Report (Reference 10).

To determine the WSEL for Junk Ditch, the IDNR added 1 foot to the 1982 high water marks from the mouth of Junk Ditch to Ardmore Road. Due to the increased floodplain and storage between Ardmore and Smith Road, only 0.5 foot was added to the 1982 high water marks. From Smith Road to Graham McCulloch Ditch, the Junk Ditch profile was connected with the 1-percent-annual-chance WSEL, which was calculated for Graham McCulloch Ditch; this produced the St. Marys River Overflow. The elevations for continuation of Graham McCulloch Ditch and the Little River profile were taken from the 1974 USACE Flood Plain Information report (Reference 10). The Little River profile taken from the confluence of Graham McCulloch Ditch upstream to the confluence of Robinson Creek was developed by connecting the WSELs calculated at the confluence of Graham McCulloch Ditch and Robinson Creek. Other streams revised by the IDNR and their revisions are as follows:

Junk Ditch – WSELs were determined from high water marks of the March 1982 flood.

St. Marys Overflow – A hydraulic baseline defines the path of water overflowing Junk Ditch. The WSELs were determined from the March 1982 high water marks.

Spy Run Creek – The model was converted from a SCS step-backwater model WSP-2 (Reference 17) to HEC-2 and was calibrated to the March 1982 high water marks from the mouth to mile 4.6.

Lowther Neuhaus Ditch – The model was converted from WSP-2 to HEC-2. New cross sections were added using survey data, and Allen County, the City of Fort Wayne, and IDNR topographic maps (Reference 15).

Drain No. 6 – The model was converted from WSP-2 to HEC-2.

Natural Drain No. 7 – The model was converted from WSP-2 to HEC-2 and the Manning's "n" value was revised.

Natural Drain No. 2 – The model was converted from WSP-2 to HEC-2. New cross sections were added using survey data, and Allen County, the City of Fort Wayne, and IDNR topographic maps (Reference 15).

Deptmer Ditch – The model was converted from WSP-2 to HEC-2. New surveyed data at bridges and new surveyed cross sections were added.

Snyder Ditch – The model was converted from WSP-2 to HEC-2. Surveyed cross sections were added. Bridge modeling was revised. Additional topographic information was obtained from field surveys.

Houk Ditch – A new starting WSEL was determined using the slope-area method. Bridge modeling was revised. Additional topographic information was obtained from field surveys.

Paul Trier Ditch – Cross section data was revised.

Sumner Drain – Cross sections were modified.

Becketts Run / Huguenard No. 2 – The model was separated at an abandoned railroad bridge due to large headloss through the bridge. Valley storage was computed and nomographs were used to determine discharge. Downstream of the railroad, new cross sections were added and the distance between cross sections was revised. Upstream of the railroad bridge, cross sections were modified to agree with surveyed information.

Waters Ditch – The expansion and contraction coefficients were revised. Cross sections were modified to model ineffective flow.

Swift Ditch – A floodway was added to the model, cross sections were modified, and Manning's "n" values were revised.

Schoppman Ditch – Cross sections were modified and new cross sections were added using Allen County and IDNR topographic maps (Reference 15). The distances between cross sections were revised and Manning's "n" values were revised.

Kramer Ditch – New surveyed cross sections were added to modify the bridge at Deerwood Drive. The model extended to mile 0.544.

Martin Ditch at St. Joseph River – Cross sections were repeated and modified. The bridge analysis at Tankel Road was modified.

Tiernan Ditch – The model was converted from WSP-2 to HEC-2. Surveyed cross sections were added. Manning's "n" values were revised.

Revert Ditch – The model was converted from WSP-2 to HEC-2. New surveyed cross sections were added and cross sections were modified. Manning's "n" values were revised.

Ely Run – Bridge modeling was revised at mile 0.57, 3.13, and 3.44. Cross sections were modified and Manning's "n" values were revised.

Roy Delagrange Ditch – Cross sections were modified and Manning's "n" values were revised.

Willow Creek / Hatch Ditch – A floodway was added to the model. Bridge modeling was modified.

Willow Creek Branch No. 7 – The floodway was modified and effective flow areas were revised.

Willow Creek Branch No. 8 – The 10-, 2-, and 1-percent-annual-chance floods were added. Effective flow areas were revised. Bridge modifications at mile 2.21.

Smith-Northrup Drain – New cross sections were added using Allen County and IDNR topographic maps (Reference 15). Bridge modeling, floodway, and Manning's "n" values were revised.

Haifley Ditch – Manning's "n" values were revised.

Pierson Ditch – Manning's "n" values were revised.

Trier Ditch – The floodway was revised upstream of mile 3.0.

Dannenfelser-Cochoit Ditch – Converted from WSP-2 to HEC-2. New cross sections were added. Bridge modeling was modified. Manning's "n" values were revised. Cross section information was revised for several sections using IDNR topographic maps (Reference 15).

Dennis Ditch – Converted from WSP-2 to HEC-2. Cross sections were revised and new surveyed cross sections were used. Model was stopped at Doyle Road where drainage area is less than 1 square mile.

Schmidt Ditch – The model was revised from WSP-2 to HEC-2. Revised and new cross sections were added.

Bender Ditch – Bridge data was modified and some cross sections were revised.

Doctor Ditch – Cross sections were revised at Station 2300 and 2416.

Bullerman Ditch – Added new surveyed cross sections and floodway analysis was revised.

Sixmile Creek / Koester Ditch / Langley Ditch – Model was converted from WSP-2 to HEC-2. Cross sections were modified. New cross sections were added using survey data, and Allen County and IDNR topographic maps (Reference 15). Manning's "n" values were revised. A floodway was added.

Mowrer Ditch – New surveyed cross sections were added and a floodway was added.

Marsh Ditch – Cross sections were modified to better define the channel.

Edgerton Carson Ditch – Revised starting WSEL to agree with Marsh Ditch.

Lawrence Branch – New surveyed cross sections by the City of Fort Wayne were added. The floodway was revised.

Geller Ditch – Cross sections revised to model ineffective flow.

Benward Ditch – Bridge data was revised and new cross sections were added. Cross sections were revised to model ineffective flow.

Bobay Ditch – Modified bridge modeling. Cross sections were revised to model ineffective flow areas.

February 16, 1995, Revision

This revision was based upon a revised HEC-2 analysis for the Maumee River. For the St. Joseph and St. Marys Rivers, only the starting WSELs were adjusted to account for lower elevations on the Maumee River.

March 2, 1998, Revision

The HEC-2 step-backwater computer program was used to develop detailed flood hazard information for the extended limit of study for Roy Delagrange Ditch.

November 5, 2003, Revision

The HEC-2 computer program developed by the USACE was used to compute water-surface profiles. Cross sections used in the analysis were obtained from field surveys, existing HEC-2 FIS models, existing WSP-2 models and from 2 foot contour interval mapping. Cedar Creek, Little Cedar Creek, the Maumee River, the St. Joseph River, and the St. Marys River (from confluence with Maumee River to confluence of Paul Trier Ditch) were revised in their entirety within the Allen County boundary.

A portion of Fairfield Ditch was revised based on revised discharges and updated topographic information. The starting WSELs for Harber Ditch were changed based on the Fairfield Ditch model.

This Revision

For the restudied portion of the St. Marys River (from the confluence of Paul Trier Ditch to South County Line Road East), the original HEC-2 model was converted to HEC-RAS 3.1.1 (Reference 18) with surveyed bridge information and updated photography and used to compute water-surface profiles. Cross section data was based on the effective FIS HEC-2 model supplemented with surveyed sections near Adams County bridges where 2-foot contour mapping was not available. USGS 10-foot contour mapping (Reference 19) was used outside of the 2-foot mapping.

For the analysis of the restudied portion of Durnell Ditch (from 210 feet upstream of Interstate Highway 69 to Pointe Inverness Way), the HEC-RAS program (Version 3.1.1) (Reference 18) was used. CBBEL used the Allen County 2-foot contour mapping (Reference 15) as the topographic work map for this study. The downstream boundary conditions for the flooding events were taken from the effective HEC-2 model.

Channel and overbank roughness factors (Manning's "n" values) for the hydraulic models were based on field observations of the stream and floodplain areas. The following tabulation presents the range of roughness coefficients used for streams studied by detailed methods.

Flooding Source	Channel "n" Values	Overbank "n" Values
Aboite Creek – Beal Taylor Ditch	0.045-0.075	0.045-0.075
Adam Schlemmer-Baker Ditch	0.070	0.040
Adams Ditch	0.030-0.100	0.030-0.080
Becketts Run	0.050	0.045

Flooding Source	Channel "n" Values	Overbank "n" Values
Huguenard No. 2	0.040	0.030
Beightle Nettlehorst Ditch	0.040	0.030
Bender Ditch	0.050-0.120	0.030-0.080
Benward Ditch	0.035	0.030
Bichacoff Ditch – Little Indian Ditch	0.050-0.075	0.055-0.060
Big Indian Creek	0.070	0.055
Black Creek	0.070	0.035
Bobay Ditch	0.035	0.030
Brown Ditch	0.070	0.035
Bullerman Ditch	0.050	0.040
Cedar Creek	0.025-0.060	0.030-0.150
Dannenfelser-Cochoit Ditch	0.040-0.150	0.012-0.100
Dennis Ditch	0.040-0.070	0.040-0.050
Deptmer Ditch	0.060-0.080	0.050-0.070
Doctor Ditch	0.070-0.130	0.090-0.130
Drain No. 6	0.070-0.130	0.090-0.130
Durnell Ditch	0.035-0.080	0.035-0.080
Edgerton Carson Ditch	0.040	0.030
Eightmile Creek	0.060	0.045
Witzgall Ditch	0.060	0.045
Ely Run	0.050-0.080	0.040
Fairfield Ditch	0.045-0.060	0.050-0.080
Harber Ditch	0.040-0.150	0.035-0.090
Flatrock Creek	0.050	0.035
Geller Ditch	0.100	0.035
Graham McCulloch Ditch	0.045-0.080	0.045-0.070
Flaugh Ditch	0.040-0.080	0.065-0.080
Graham McCulloch Natural Drain No. 7	0.030-0.100	0.030-0.080
Haifley Ditch	0.050	0.045
Houk Ditch	0.050	0.030
Johnson Ditch	0.060	0.045
Junk Ditch	*	*
Kramer Ditch	0.030-0.100	0.030-0.080
Lawrence Branch	0.030-0.080	0.030-0.100
Little Cedar Creek	0.035-0.050	0.070-0.150
Little River	*	*
Lowther Neuhaus Ditch	0.060-0.116	0.040-0.120
Marsh Ditch	0.040	0.030
Martin Ditch	0.030-0.100	0.030-0.060
Martin Ditch at St. Joseph River	0.065	0.040
Maumee River	0.035-0.038	0.060-0.100
St. Marys River	0.040-0.080	0.040-0.100
Mowrer Ditch	0.060	0.080
Natural Drain No. 2	0.032-0.120	0.032-0.080
Natural Drain No. 7	0.060-0.090	0.050-0.070
Paul Trier Ditch	0.060-0.100	0.060
Pierson Ditch	0.040	0.030
Reichelderfer Ditch	0.070	0.035
Revert Ditch	0.060-0.100	0.070-0.080
Ringwalt Ditch	0.100	0.040
Robinson Creek	0.045-0.050	0.015-0.080
Brindle Ditch	0.050	0.065
Roy Delagrange Ditch	0.040	0.030
Salagy Ditch	0.070	0.030
Schmidt Ditch	0.070-0.120	0.025-0.070
Schoppman Ditch	0.070	0.055
Seegar Ditch	0.045-0.075	0.045-0.060
Sixmile Creek	0.050-0.090	0.040-0.060
Koester Ditch	0.050-0.080	0.040-0.080
Langley Ditch	0.050-0.080	0.070-0.075

Flooding Source	Channel "n" Values	Overbank "n" Values
Smith-Northrup Drain	0.050	0.040
Snyder Ditch	0.055-0.090	0.050-0.055
Spy Run Creek	0.060-0.090	0.050-0.060
St. Joseph River	0.033-0.040	0.100
Sumner Ditch	0.010	0.035
Suter Ditch	0.045	0.045-0.060
Swift Ditch	0.040-0.050	0.035-0.040
Tiernan Ditch	0.030-0.090	0.045-0.080
Trier Ditch	0.060-0.100	0.060
Unnamed Tributary No. 1	0.080-0.100	0.030-0.045
Waters Ditch	0.050	0.014-0.045
Whitmer Ditch	0.050	0.035
Willow Creek	0.070	0.035
Hatch Ditch	0.070	0.012-0.035
Willow Creek Branch No. 7	0.070	0.040
Willow Creek Branch No. 8	0.100	0.040
Woods Ditch	0.050-0.080	0.055-0.070
Bradbury Ditch	0.030-0.100	0.030-0.080

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the FIRM (Exhibit 2).

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the Flood Profiles (Exhibit 1) are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was NGVD29. With the finalization of NAVD88, many FIS reports and FIRMs are being prepared using NAVD88 as the referenced vertical datum.

All flood elevations shown in this FIS report and on the FIRM are referenced to NAVD88. Structure and ground elevations in the community must, therefore, be referenced to NAVD88. It is important to note that adjacent communities may be referenced to NGVD29. This may result in differences in Base Flood Elevations (BFEs) across the corporate limits between the communities. The average conversion factor that was used to convert the data in this FIS report to NAVD88 was calculated using the National Geodetic Survey's VERTCON online utility (Reference 20). The data points used to determine the conversion are listed in Table 2 "Vertical Datum Conversion".

Table 2 – Vertical Datum Conversion

Quad Name	Corner	Longitude	Latitude	Conversion from NGVD29 to NAVD88
Churutusco	NE	-85.249	41.247	-0.510
Huntertown	NE	-85.122	41.247	-0.480
Cedarville	NE	-84.998	41.247	-0.490
Grabill	NE	-84.871	41.247	-0.490
Laud	NE	-85.372	41.124	-0.500
Arcola	NE	-85.249	41.124	-0.520
Fort Wayne West	NE	-85.122	41.124	-0.480
Fort Wayne East	NE	-84.998	41.124	-0.520
Maples	NE	-84.871	41.124	-0.490
Zanesville	NE	-85.249	40.998	-0.500
Ossian	NE	-85.122	40.998	-0.520
Poe	NE	-84.998	40.998	-0.500
Hoagland	NE	-84.871	40.998	-0.520
			Average	**-0.502**

For more information on NAVD88, see the FEMA publication entitled *Converting the National Flood Insurance Program to the North American Vertical Datum of 1988* (FEMA, June 1992), or contact the Vertical Network Branch, National Geodetic Survey, Coast and Geodetic Survey, National Oceanic and Atmospheric Administration, Silver Spring, Maryland 20910 (Internet address http://www.ngs.noaa.gov).

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with the FIS report and FIRM for this community. Interested individuals may contact FEMA to access these data.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each FIS provides 1-percent-annual-chance (100-year) flood elevations and delineations of the 1- and 0.2-percent-annual-chance (500-year) floodplain boundaries and 1-percent-annual-chance floodway to assist communities in developing floodplain management measures. This information is presented on the FIRM and in many components of the FIS report, including Flood Profiles, Floodway Data Table, and Summary of Stillwater Elevations Table. Users should reference the data presented in the FIS report as well as additional information

that may be available at the local map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the 1- and 0.2-percent-annual-chance floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections for all streams except Reichelderfer Ditch, St. Marys River (from the confluence of Paul Trier Ditch to South County Line Road), and Durnell Ditch (from 210 feet upstream of Interstate Highway 69 to Pointe Inverness Way), the boundaries were interpolated using topographic maps with a contour interval of 2 feet (Reference 5). For Reichelderfer Ditch, between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24,000, with a contour interval of 10 feet in Allen County and topographic maps at a scale of 1:1,200, with a contour interval of 2 feet in the City of Fort Wayne (References 15 and 19).

For St. Marys River (from the confluence of Paul Trier Ditch to South County Line Road) the Allen County 2-foot contour mapping to delineate floodplain boundaries (Reference 15). Outside of the 2-foot mapping where contours was not available, USGS 10-foot contour mapping (Reference 19) was used.

For Durnell Ditch (from 210 feet upstream of Interstate Highway 69 to Pointe Inverness Way) CBBEL used the Allen County 2-foot contour mapping to delineate floodplain boundaries (Reference 15).

For the streams studied by approximate methods, the 1-percent-annual-chance floodplain boundary was delineated using topographic maps at a scale of 1:24,000, with a contour interval of 10 feet and the City of Fort Wayne topographic maps at a scale of 1:1,200, with a contour interval of 2 feet (References 15 and 19).

The 1- and 0.2-percent-annual-chance floodplain boundaries are shown on the FIRM (Exhibit 2). On this map, the 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A and AE), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 1- and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but

cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this FIS report and on the FIRM were computed for certain stream segments on the basis of equal-conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations have been tabulated for selected cross sections (Table 3). In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

For the St. Marys River (from the confluence of Paul Trier Ditch to South County Line Road East) the MRBC requested that the revised floodway not be narrower than the effective floodway. The mapped floodway widths were found to be as much as 1,000 feet greater than shown in the modeling at many cross sections; however the floodway appears to have been drawn conservatively based on IDNR Division of Water modeling guidelines requiring cross-sections within bridge expansion and contraction zones to be ignored. The floodway was also drawn wider through many portions of the reach in order to encompass the effective and proposed floodway limits as requested by the MRBC.

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ABOITE CREEK								
A	8,342	1,148	3,368	1.6	755.0	752.7[2]	752.8	0.1
B	10,243	909	1,726	3.1	755.5	755.5	755.6	0.1
C	15,206	349	1,386	3.8	764.3	764.3	764.4	0.1
D	15,682	633	2,579	2.1	765.5	765.5	765.6	0.1
E	21,437	280	1,456	3.3	770.0	770.0	770.1	0.1
F	30,149	553	2,792	1.5	779.9	779.9	780.0	0.1
G	36,432	182	1,430	2.7	787.7	787.7	787.8	0.1
BEAL TAYLOR DITCH								
H	41,659	517	2,185	1.7	795.3	795.3	795.4	0.1
I	46,517	278	1,239	3.1	802.9	802.9	803.0	0.1
J	49,421	800	1,310	1.4	805.4	805.4	805.5	0.1
K	55,387	67	416	4.3	816.8	816.8	816.9	0.1
L	57,658	335	862	2.1	821.5	821.5	821.6	0.1
M	61,195	207	322	4.6	826.3	826.3	826.4	0.1

[1]Feet above confluence with Little River
[2]Elevation computed without consideration of flooding effects from Little River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ABOITE CREEK – BEAL TAYLOR DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ADAM SCHLEMMER-BAKER DITCH								
A	4,066[1]	400	361	4.1	783.9	783.9	784.0	0.1
B	5,966[1]	350	209	7.1	785.9	785.9	786.0	0.1
C	7,181[1]	248	460	3.2	787.6	787.6	787.7	0.1
D	9,979[1]	342	941	1.4	791.4	791.4	791.5	0.1
E	11,722[1]	330	976	1.3	795.4	795.4	795.4	0.0
F	13,200[1]	252	400	3.2	796.4	796.4	796.5	0.1
ADAMS DITCH								
A	898[2]	100	331	1.6	777.0	777.0	777.0	0.0
B	1,531[2]	200	414	1.3	778.7	778.7	778.7	0.0
C	2,482[2]	175	129	4.1	779.5	779.5	779.5	0.0
D	4,963[2]	75	110	4.8	789.0	789.0	789.0	0.0

[1]Feet above confluence with Flatrock Creek
[2]Feet above confluence with Bender Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ADAM SCHLEMMER-BAKER DITCH – ADAMS DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
BECKETTS RUN								
A	1,214	390	2,150	0.8	766.3	764.2[2]	764.2	0.0
B	3,907	425	1,186	1.5	770.7	770.7	770.8	0.1
C	4,910	299	694	2.4	772.9	772.9	772.9	0.0
D	7,762	350	824	2.1	781.6	781.6	781.7	0.1
E	9,240	305	1,004	1.7	785.5	785.5	785.6	0.1
F	10,349	187	394	3.6	786.7	786.7	786.8	0.1
G	14,467	337	1,194	0.9	796.9	796.9	797.0	0.1
H	20,170	205	2,029	0.6	818.7	818.7	818.8	0.1
I	21,542	242	778	1.4	819.0	819.0	819.1	0.1
J	23,971	238	252	4.4	820.3	820.3	820.3	0.0
HUGUENARD NO. 2								
K	25,872	14	94	4.4	830.9	830.9	830.9	0.0

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

BECKETTS RUN – HUGUENARD NO. 2

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
BEIGHTLE NETTLEHORST DITCH								
A	1,481[1]	190	339	2.5	779.8	777.1[2]	777.2	0.1
B	2,611[1]	98	301	2.8	782.3	782.3	782.3	0.0
C	4,342[1]	38	170	4.9	783.7	783.7	783.8	0.1
D	7,547[1]	25	81	10.4	794.6	794.6	794.6	0.0
E	10,615[1]	35	135	5.0	801.2	801.2	801.3	0.1
F	12,616[1]	35	117	5.8	805.9	805.9	806.0	0.1
G	17,014[1]	184	236	2.9	816.4	816.4	816.5	0.1
BENDER DITCH								
A	845[3]	466	1,735	1.0	760.2	760.2	760.3	0.1
B	1,531[3]	195	661	2.6	760.8	760.8	760.9	0.1
C	1,901[3]	383	2,071	0.8	764.8	764.8	764.8	0.0
D	4,435[3]	315	982	1.7	766.4	766.4	766.5	0.1
E	6,442[3]	230	776	1.3	770.6	770.6	770.7	0.1
F	10,771[3]	47	143	4.8	775.8	775.8	775.9	0.1
G	11,299[3]	165	745	0.9	780.8	780.8	780.8	0.0
H	13,200[3]	64	331	2.1	784.6	784.6	784.6	0.0
I	15,893[3]	198	669	1.0	787.1	787.1	787.1	0.0
J	18,216[3]	93	167	4.1	792.4	792.4	792.5	0.1
K	19,325[3]	227	353	1.3	795.3	795.3	795.4	0.1

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River
[3]Feet above confluence with Dannenfelser-Cochoit Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

BEIGHTLE NETTLEHORST DITCH – BENDER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
BENWARD DITCH								
A	12,566[1]	124	256	2.6	833.5	833.0[2]	833.1	0.1
B	15,946[1]	30	127	4.3	836.5	836.5	836.5	0.0
C	17,952[1]	29	132	4.1	838.8	838.8	838.8	0.0
D	18,691[1]	141	478	1.1	841.9	841.9	841.9	0.0
E	22,651[1]	63	184	2.8	842.6	842.6	842.7	0.1
BICHACOFF DITCH								
A	1,056[3]	220	327	3.5	766.3	765.2[4]	765.3	0.1
B	2,851[3]	108	336	3.4	779.4	779.4	779.5	0.1
C	4,224[3]	63	255	4.2	784.0	784.0	784.1	0.1
BIG INDIAN CREEK								
A	1,003[3]	102	547	3.1	779.0	778.7[4]	778.8	0.1
B	2,640[3]	75	373	4.5	783.3	783.3	783.4	0.1
C	3,749[3]	252	891	1.9	784.7	784.7	784.8	0.1
D	7,022[3]	372	1,010	1.7	792.0	792.0	792.1	0.1
E	8,765[3]	221	697	2.4	795.6	795.6	795.7	0.1
F	11,405[3]	176	362	4.4	801.2	801.2	801.3	0.1
G	12,250[3]	223	905	1.8	802.9	802.9	803.0	0.1

[1]Feet above confluence with Geller Ditch
[2]Elevation computed without consideration of backwater effects from Bobay Ditch
[3]Feet above confluence with Aboite Creek
[4]Elevation computed without consideration of backwater effects from Aboite Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

BENWARD DITCH – BICHACOFF DITCH – BIG INDIAN CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
BLACK CREEK								
A	27,785[1]	272	288	3.9	748.5	748.5	748.6	0.1
B	31,376[1]	538	473	2.3	755.7	755.7	755.8	0.1
C	32,485[1]	700	1,294	0.9	757.7	757.7	757.7	0.0
D	36,497[1]	39	183	4.1	764.9	764.9	765.0	0.1
E	40,669[1]	37	162	3.9	775.5	775.5	775.5	0.0
F	42,094[1]	34	138	4.6	779.7	779.7	779.7	0.0
BOBAY DITCH								
A	1,426[2]	170	364	2.3	834.9	834.9	835.0	0.1
B	3,907[2]	148	604	1.4	837.8	837.8	837.8	0.0
C	6,336[2]	242	1,133	0.5	839.0	839.0	839.1	0.1
D	7,867[2]	273	1,079	0.6	839.1	839.1	839.2	0.1
E	9,874[2]	287	597	0.8	839.2	839.2	839.3	0.1
BROWN DITCH								
A	50[3]	355	350	2.4	792.2	791.5[4]	791.6	0.1
B	2,550[3]	301	500	1.7	795.6	795.6	795.7	0.1

[1]Feet above confluence with Maumee River
[2]Feet above confluence with Benward Ditch
[3]Feet above confluence with Adam Schlemmer-Baker Ditch
[4]Elevation computed without consideration of backwater effects from Adam Schlemmer-Baker Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

BLACK CREEK – BOBAY DITCH – BROWN DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
BULLERMAN BRANCH								
A	776[1]	150	217	2.1	777.5	775.5[2]	775.5	0.0
B	3,258[1]	268	519	0.9	779.6	779.6	779.6	0.0
C	4,958[1]	98	273	1.7	780.0	780.0	780.0	0.0
BULLERMAN DITCH								
A	3,538[3]	245	717	2.0	749.0	743.8[4]	743.9	0.1
B	6,653[3]	200	224	6.4	749.6	749.6	749.7	0.1
C	9,926[3]	225	635	2.3	760.6	760.6	760.7	0.1
D	13,042[3]	201	522	2.8	766.6	766.6	766.7	0.1
E	14,626[3]	77	432	3.3	769.8	769.8	769.9	0.1
F	17,002[3]	90	379	3.8	772.8	772.8	772.8	0.0
G	18,533[3]	100	491	2.9	776.0	776.0	776.1	0.1
H	19,325[3]	150	471	1.7	777.0	777.0	777.1	0.1
I	22,176[3]	117	343	2.3	779.4	779.4	779.5	0.1
J	24,394[3]	130	284	1.9	782.2	782.2	782.3	0.1
K	27,614[3]	47	113	4.8	788.6	788.6	788.7	0.1

[1]Feet above confluence with Bullerman Ditch
[2]Elevation computed without consideration of backwater effects from Bullerman Ditch
[3]Feet above confluence with Maumee River
[4]Elevation computed without consideration of backwater effects from Maumee River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

BULLERMAN BRANCH – BULLERMAN DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
CEDAR CREEK								
A	2,059	210	1,932	3.2	777.0	774.6[2]	774.7	0.1
B	4,805	275	1,981	3.1	777.0	776.6[2]	776.7	0.1
C	10,349	700	3,882	1.6	779.9	779.9	780.0	0.1
D	15,154	800	4,003	1.5	781.5	781.5	781.6	0.1
E	19,061	910	1,221	5.1	783.3	783.3	783.4	0.1
F	25,080	225	1,791	3.5	788.7	788.7	788.8	0.1
G	29,410	350	2,191	2.8	791.8	791.8	791.9	0.1
H	32,789	660	5,523	1.1	794.9	794.9	795.0	0.1
I	39,178	650	1,916	3.2	798.3	798.3	798.4	0.1
J	41,290	605	1,498	4.4	800.8	800.8	800.8	0.0
K	47,309	905	4,858	1.3	805.5	805.5	805.6	0.1
L	53,856	1,280	3,871	1.6	809.9	809.9	810.0	0.1
M	56,971	395	1,312	2.8	811.7	811.7	811.8	0.1
N	64,205	900	746	5.0	815.7	815.7	815.8	0.1

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

CEDAR CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
DANNENFELSER – COCHOIT DITCH								
A	1,478[1]	401	1,345	1.9	756.5	754.9[2]	755.0	0.1
B	4,910[1]	98	354	4.0	762.1	762.1	762.2	0.1
C	8,184[1]	585	2,125	0.7	768.5	768.5	768.6	0.1
D	13,306[1]	228	750	1.5	774.8	774.8	774.9	0.1
E	16,526[1]	316	880	1.3	778.1	778.1	778.2	0.1
F	21,701[1]	249	661	1.7	784.0	784.0	784.1	0.1
G	25,080[1]	143	200	2.6	785.2	785.2	785.3	0.1
DENNIS DITCH								
A	950[3]	223	450	1.5	785.0	785.0	785.1	0.1
B	2,957[3]	162	273	2.5	787.3	787.3	787.4	0.1
C	3,590[3]	390	856	0.8	788.9	788.9	789.0	0.1
D	7,550[3]	454	621	1.1	791.7	791.7	791.8	0.1
E	10,032[3]	446	742	0.9	793.8	793.8	793.9	0.1

[1]Feet above confluence with Trier Ditch
[2]Elevation computed without consideration of backwater effects from Trier Ditch
[3]Feet above confluence with Dannenfelser-Cochoit Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

DANNENFELSER-COCHOIT DITCH – DENNIS DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
DEPTMER DITCH								
A	2,006[1]	458	2,501	0.6	801.4	801.4	801.5	0.1
B	3,485[1]	789	4,896	0.3	801.7	801.7	801.8	0.1
C	7,762[1]	395	1,147	1.3	802.6	802.6	802.7	0.1
D	10,349[1]	310	887	1.7	803.5	803.5	803.6	0.1
E	12,302[1]	771	2,042	0.6	805.1	805.1	805.2	0.1
F	16,896[1]	705	1,423	0.8	807.8	807.8	807.9	0.1
DOCTOR DITCH								
A	1,214[2]	32	106	6.3	767.8	767.8	767.8	0.0
B	2,851[2]	535	703	1.0	771.3	771.3	771.4	0.1
C	4,066[2]	23	53	8.8	772.9	772.9	772.9	0.0
D	5,280[2]	164	75	2.7	777.7	777.7	777.8	0.1
DRAIN NO. 6								
A	1,800[3]	204	367	2.0	792.5	792.5	792.6	0.1
B	3,631[3]	146	513	1.5	797.5	797.5	797.6	0.1
C	6,567[3]	132	304	1.8	805.4	805.4	805.5	0.1
D	8,900[3]	74	196	2.7	817.6	817.6	817.7	0.1

[1]Feet above confluence with Harber Ditch
[2]Feet above confluence with Trier Ditch
[3]Feet above confluence with Lowther Neuhaus Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

DEPTMER DITCH – DOCTOR DITCH – DRAIN NO. 6

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
DURNELL DITCH								
A	1,109[1]	177	387	2.3	767.6	767.6	767.7	0.1
B	2,006[1]	47	180	4.9	772.6	772.6	772.7	0.1
C	3,432[1]	227	568	1.6	775.7	775.7	775.8	0.1
D	4,488[1]	129	236	3.2	778.4	778.4	778.5	0.1
E	5,491[1]	225	548	1.4	780.8	780.8	780.9	0.1
F	6,086[1]	145	254	2.7	784.1	784.1	784.2	0.1
G	7,952[1]	35	127	4.8	788.4	788.4	788.5	0.1
H	9,616[1]	20	92	6.6	795.5	795.5	795.5	0.0
I	12,355[1]	87	160	3.0	808.9	808.9	809.0	0.1
J	14,837[1]	25	58	3.1	814.0	814.0	814.1	0.1
K	16,104[1]	526	3,198	0.1	821.9	821.9	822.0	0.1
L	17,160[1]	22	82	4.0	822.2	822.2	822.3	0.1
EDGERTON CARSON DITCH								
A	950[2]	40	231	6.6	742.2	742.2	742.3	0.1
B	1,426[2]	39	245	6.2	743.4	743.4	743.5	0.1
C	2,798[2]	39	263	5.8	745.6	745.6	745.6	0.0
D	3,802[2]	43	314	4.8	746.8	746.8	746.8	0.0

[1]Feet above confluence with Graham McCulloch Ditch
[2]Feet above confluence with Marsh Ditch

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

DURNELL DITCH – EDGERTON CARSON DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
EIGHTMILE CREEK								
A	11,722	345/170[2]	1,960	3.5	763.5	763.5	763.6	0.1
B	14,203	360	2,732	2.5	765.4	765.4	765.5	0.1
C	17,318	394	2,556	2.5	766.9	766.9	767.0	0.1
D	19,800	403	2,044	3.2	768.8	768.8	768.9	0.1
E	22,915	395	2,707	2.4	771.4	771.4	771.5	0.1
WITZGALL DITCH								
F	36,379	272	601	3.1	790.7	790.7	790.8	0.1
G	38,069	260	617	3.0	796.4	796.4	796.5	0.1
H	38,702	131	408	2.8	797.6	797.6	797.7	0.1
I	41,395	189	566	2.0	801.1	801.1	801.2	0.1

[1]Feet above county boundary
[2]Total width/width within county

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

EIGHTMILE CREEK – WITZGALL DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ELY RUN								
A	211[1]	59	329	5.2	774.8	766.2[2]	766.3	0.1
B	3,062[1]	66	233	7.1	776.9	776.9	776.9	0.0
C	5,333[1]	315	792	2.1	781.8	781.8	781.9	0.1
D	8,712[1]	280	1,738	0.9	794.0	794.0	794.0	0.0
E	10,771[1]	155	278	5.7	796.9	796.9	796.9	0.0
F	16,579[1]	281	765	1.7	808.9	808.9	809.0	0.1
G	18,216[1]	234	315	2.6	812.2	812.2	812.3	0.1
H	19,906[1]	97	203	4.1	818.1	818.1	818.2	0.1
FAIRFIELD DITCH								
A	1,954[3]	54	522	2.6	762.1	758.5[4]	758.6	0.1
B	2,165[3]	61	544	2.5	762.1	745.0[4]	745.0	0.0
C	4,752[3]	83	515	2.8	762.1	748.5[4]	748.5	0.0
D	5,861[3]	350	1,255	1.5	762.1	761.4[4]	761.5	0.1
E	7,656[3]	120	577	2.4	762.1	762.3[4]	762.3	0.0
F	9,557[3]	896	3,756	0.6	762.8	762.8	762.9	0.1

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River
[3]Feet above confluence with St. Marys River
[4]Elevation computed without consideration of backwater effects from St. Marys River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ELY RUN – FAIRFIELD DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
HARBER DITCH								
G	12,936	566	1,244	2.6	767.2	767.2	767.2	0.0
H	16,368	775	3,201	0.9	770.4	770.4	770.5	0.1
I	18,216	591	3,432	0.8	773.6	773.6	773.7	0.1
J	19,642	512	2,757	1.1	774.7	774.7	774.8	0.1
K	21,542	258	1,192	2.4	775.1	775.1	775.2	0.1
L	24,763	593	2,285	1.2	777.3	777.3	777.4	0.1
M	26,136	400	1,850	1.5	778.8	778.8	778.9	0.1
N	33,053	497	2,805	0.9	785.6	785.6	785.7	0.1
O	35,798	435	2,307	1.1	786.4	786.4	786.5	0.1
P	41,237	300	1,922	1.6	790.5	790.5	790.6	0.1
Q	45,514	250	589	3.4	792.5	792.5	792.6	0.1
R	47,362	700	4,486	0.2	800.8	800.8	800.8	0.0
S	49,579	847	3,767	0.2	800.8	800.8	800.8	0.0
T	52,430	500	199	4.4	802.4	802.4	802.5	0.1

[1]Feet above mouth of Fairfield Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

HARBER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
FLATROCK CREEK								
A	24,235[1]	424	2,703	1.7	777.1	777.1	777.2	0.1
B	27,350[1]	689	3,371	1.4	777.7	777.7	777.8	0.1
C	30,254[1]	431	2,056	2.3	778.4	778.4	778.5	0.1
D	32,578[1]	482	2,324	2.0	779.8	779.8	779.9	0.1
E	38,544[1]	68	573	7.0	783.7	783.7	783.8	0.1
GELLER DITCH								
A	8,446[2]	162	447	2.1	828.8	828.8	828.9	0.1
B	12,354[2]	144	618	1.5	831.1	831.1	831.1	0.0
C	14,202[2]	36	212	4.0	832.1	832.1	832.2	0.1
D	16,314[2]	43	215	2.5	833.9	833.9	833.9	0.0
E	18,214[2]	53	215	1.0	834.0	834.0	834.0	0.0
F	20,326[2]	25	70	1.8	840.6	840.6	840.6	0.0
GRAHAM MCCULLOCH DITCH								
A	30,941[3]	184	717	2.7	762.5	762.5	762.6	0.1
B	32,472[3]	107	611	2.9	764.4	764.4	764.5	0.1
C	33,792[3]	104	657	2.7	765.8	765.8	765.9	0.1

[1]Feet above confluence with Hoffman Creek
[2]Feet above confluence with Eel River
[3]Feet above confluence with Little River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

FLATROCK CREEK – GELLER DITCH – GRAHAM MCCULLOCH DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
FLAUGH DITCH								
D	34,637[1]	139	522	2.4	767.0	767.0	767.1	0.1
E	38,438[1]	53	259	2.7	776.0	776.0	776.1	0.1
F	39,230[1]	146	343	2.0	778.1	778.1	778.2	0.1
G	43,349[1]	87	300	2.0	787.6	787.6	787.7	0.1
H	46,675[1]	39	172	3.1	794.2	794.2	794.3	0.1
I	48,787[1]	137	246	1.7	800.7	800.7	800.8	0.1
J	50,213[1]	143	232	3.5	804.5	804.5	804.6	0.1
K	52,325[1]	300	656	1.2	811.9	811.9	812.0	0.1
L	53,539[1]	150	460	1.8	814.8	814.8	814.9	0.1
M	55,598[1]	91	292	1.9	818.5	818.5	818.6	0.1
N	56,549[1]	56	147	1.8	821.3	821.3	821.4	0.1
GRAHAM MCCULLOCH NATURAL DRAIN NO. 7								
A	686[2]	486	1,051	0.9	764.2	764.2	764.2	0.0
B	2,059[2]	449	2,112	0.4	772.1	772.1	772.1	0.0
C	2,323[2]	219	778	1.2	772.2	772.2	772.2	0.0
D	3,802[2]	219	396	2.4	777.0	777.0	777.0	0.0
E	5,702[2]	211	444	2.1	792.5	792.5	792.5	0.0

[1]Feet above mouth of Graham McCulloch Ditch
[2]Feet above confluence with Graham McCulloch Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

FLAUGH DITCH – GRAHAM MCCULLOCH NATURAL DRAIN NO. 7

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
HAIFLEY DITCH								
A	201[1]	345[2]	171	3.4	805.4	805.2[3]	805.3	0.1
B	2,471[1]	200	293	2.0	811.6	811.6	811.7	0.1
C	2,698[1]	200	491	1.2	812.6	812.6	812.7	0.1
HOUK DITCH								
A	44,194[4]	226	572	1.9	818.0	818.0	818.1	0.1
B	47,626[4]	170	292	3.5	821.6	821.6	821.7	0.1
C	50,530[4]	158	354	2.9	826.3	826.3	826.4	0.1
D	53,962[4]	592	536	1.7	828.0	828.0	828.1	0.1
E	56,971[4]	620	298	3.1	829.8	829.8	829.8	0.0
JOHNSON DITCH								
A	317[5]	629	2,563	0.4	799.6	799.6	799.7	0.1
B	3,907[5]	76	220	5.1	799.9	799.9	800.0	0.1

[1]Feet above confluence with Whitmer Ditch
[2]Combined floodway width of Haifley Ditch and Whitmer Ditch
[3]Elevation computed without consideration of backwater effects from Whitmer Ditch
[4]Feet above mouth
[5]Feet above confluence with Witzgall Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

HAIFLEY DITCH – HOUK DITCH – JOHNSON DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
KRAMER DITCH								
A	201[1]	20	65	7.2	765.5	755.6[2]	755.7	0.1
B	1,748[1]	111	262	1.8	768.5	768.5	768.5	0.0
C	2,175[1]	137	433	1.1	770.0	770.0	770.1	0.1
D	2,872[1]	103	408	1.2	773.4	773.4	773.4	0.0
LAWRENCE BRANCH								
A	2,350[3]	61	336	1.4	784.5	784.5	784.6	0.1
B	4,850[3]	46	225	1.8	787.3	787.3	787.4	0.1
LITTLE CEDAR CREEK								
A	400[4]	632	1,921	2.3	811.2	808.7[5]	808.8	0.1
B	3,452[4]	540	597	7.4	815.6	815.6	815.7	0.1

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River
[3]Feet above confluence with Flaugh Ditch
[4]Feet above confluence with Cedar Creek
[5]Elevation computed without consideration of backwater effects from Cedar Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

KRAMER DITCH – LAWRENCE BRANCH – LITTLE CEDAR CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
LOWTHER NEUHAUS DITCH								
A	1,426[1]	179	694	1.6	778.3	778.3	778.4	0.1
B	2,851[1]	471	1,040	1.1	778.5	778.5	778.6	0.1
C	4,330[1]	73	356	3.1	782.7	782.7	782.7	0.0
D	7,075[1]	420	945	1.2	786.5	786.5	786.6	0.1
E	8,818[1]	310	380	1.1	787.2	787.2	787.3	0.1
F	9,874[1]	420	1,155	0.2	787.7	787.7	787.8	0.1
MARSH DITCH								
A	1,531[2]	44[3]	244	7.4	727.0	724.3[4]	727.3	0.0
B	3,221[2]	40[3]	197	9.1	729.7	729.7	729.7	0.0
C	4,805[2]	48[3]	328	5.5	734.1	734.1	734.1	0.0
D	7,181[2]	46[3]	289	5.6	737.8	737.8	737.8	0.0
E	9,346[2]	190	526	3.1	740.4	740.4	740.5	0.1
F	11,246[2]	292	767	0.9	741.2	741.2	741.3	0.1
G	12,936[2]	103	356	2.0	741.4	741.4	741.5	0.1
H	13,622[2]	450	932	0.5	741.8	741.8	741.9	0.1
I	16,421[2]	136	422	1.1	741.9	741.9	742.0	0.1
J	18,005[2]	102	253	1.8	742.1	742.1	742.2	0.1

[1]Feet above confluence with Spy Run Creek
[2]Feet above confluence with Maumee River
[3]Floodway contained in channel
[4]Elevation computed without consideration of backwater effects from Maumee River

DRAFT

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

LOWTHER NEUHAUS DITCH – MARSH DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
MARTIN DITCH								
A	2,494[1]	45	201	9.2	748.2	741.6[2]	741.7	0.1
B	3,613[1]	179	720	2.5	748.6	748.6	748.6	0.0
C	5,133[1]	271	1,391	1.3	751.9	751.9	751.9	0.0
D	6,240[1]	78	593	3.0	758.9	758.9	758.9	0.0
E	8,712[1]	276	435	4.1	760.1	760.1	760.1	0.0
F	10,312[1]	46	312	3.5	761.8	761.8	761.8	0.0
G	12,712[1]	358	1,988	0.9	763.8	763.8	763.9	0.1
MARTIN DITCH AT ST. JOSEPH RIVER								
A	1,685[3]	33	111	5.7	770.2	763.0[4]	763.0	0.0
B	3,216[3]	196	200	3.2	772.4	772.4	772.5	0.1
C	4,853[3]	82	147	4.3	783.0	783.0	783.1	0.1
D	5,381[3]	65	250	2.5	787.1	787.1	787.1	0.0

[1]Feet above confluence with Maumee River
[2]Elevation computed without consideration of backwater effects from Maumee River
[3]Feet above confluence with St. Joseph River
[4]Elevation computed without consideration of backwater effects from St. Joseph River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

MARTIN DITCH – MARTIN DITCH AT ST. JOSEPH RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
MAUMEE RIVER								
A	569,448	835/180[2]	8,902	3.2	723.8	723.8	723.9	0.1
B	571,771	1,020	11,837	2.4	724.3	724.3	724.4	0.1
C	573,883	790	8,283	3.4	724.9	724.9	725.0	0.1
D	578,424	1,945	16,435	1.7	726.2	726.2	726.3	0.1
E	581,170	1,050	11,738	2.4	726.6	726.6	726.7	0.1
F	584,813	1,510	13,384	2.1	727.5	727.5	727.6	0.1
G	588,456	3,040	23,667	1.2	728.2	728.2	728.3	0.1
H	593,366	3,820	31,149	0.9	728.7	728.7	728.8	0.1
I	597,643	2,450	21,376	1.3	729.2	729.2	729.3	0.1
J	605,880	1,620	15,396	1.8	731.2	731.2	731.3	0.1
K	610,632	1,300	11,426	2.5	732.4	732.4	732.5	0.1
L	616,493	1,600	15,667	1.8	734.1	734.1	734.2	0.1
M	624,466	1,500	12,990	2.2	735.9	735.9	736.0	0.1
N	634,128	2,000	18,858	1.5	739.0	739.0	739.1	0.1
O	643,104	700	7,106	4.0	740.9	740.9	741.0	0.1
P	648,173	1,100	8,738	3.3	742.2	742.2	742.3	0.1
Q	650,390	790	9,412	3.0	742.9	742.9	743.0	0.1
R	654,245	650	10,558	2.7	744.1	744.1	744.2	0.1

[1]Feet above mouth
[2]Total width/width within state boundary

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

MAUMEE RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
MAUMEE RIVER (CONTINUED)								
S	658,046	1,200	10,344	2.7	744.9	744.9	745.0	0.1
T	659,680	800	8,575	3.3	745.4	745.4	745.5	0.1
U	662,165	1,700	12,995	2.2	746.2	746.2	746.3	0.1
V	666,758	1,800	16,220	1.8	747.1	747.1	747.2	0.1
W	669,557	2,250	20,060	1.4	747.5	747.5	747.6	0.1
X	671,563	1,600	8,051	3.5	747.8	747.8	747.9	0.1
T	678,163	1,500	18,451	1.5	748.5	748.5	748.6	0.1
Z	680,698	1,100	6,951	4.1	749.0	749.0	749.1	0.1
AA	681,542	1,050	6,951	4.1	749.0	749.0	749.1	0.1
AB	685,080	3,163	34,276	0.8	749.9	749.9	750.0	0.1
AC	687,931	2,659	24,674	1.1	750.0	750.0	750.1	0.1
AD	698,280	403	7,467	3.6	751.2	751.2	751.3	0.1
AE	704,458	521	8,263	3.3	752.6	752.6	752.7	0.1
AF	709,474	750	8,788	3.1	753.8	753.8	753.9	0.1
AG	711,533	410	10,379	2.6	754.5	754.5	754.6	0.1
AH	714,278	754	7,993	3.4	755.3	755.3	755.4	0.1
AI	715,387	424	7,191	3.8	755.7	755.7	755.8	0.1
AJ	717,763	407	8,352	3.2	756.8	756.8	756.9	0.1

[1]Feet above mouth

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

MAUMEE RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ST. MARYS RIVER								
AK	719,981	295	5,060	3.3	756.9	756.9	757.0	0.1
AL	723,413	390	5,843	2.7	757.4	757.4	757.5	0.1
AM	724,416	195	3,599	4.4	757.6	757.6	757.7	0.1
AN	728,112	240	6,315	2.5	758.4	758.4	758.5	0.1
AO	730,171	489	6,077	2.6	758.8	758.8	758.9	0.1
AP	735,979	184	3,587	4.7	759.3	759.3	759.4	0.1
AQ	738,302	224	4,642	3.7	760.0	760.0	760.1	0.1
AR	738,936	575	6,030	2.8	760.1	760.1	760.2	0.1
AS	742,843	858	7,066	2.4	761.1	761.1	761.2	0.1
AT	746,962	1,724	7,325	2.3	761.9	761.9	762.0	0.1
AU	749,285	1,006	9,113	1.7	762.7	762.7	762.8	0.1
AV	751,027	1,169	8,677	1.8	763.0	763.0	763.1	0.1
AW	752,611	459	4,959	3.1	763.3	763.3	763.4	0.1
AX	753,720	490	5,051	3.1	763.6	763.6	763.7	0.1
AY	754,829	510	4,775	3.3	763.9	763.9	764.0	0.1
AZ	756,307	897	6,865	2.3	764.3	764.3	764.4	0.1
BA	759,422	888	5,474	2.8	765.0	765.0	765.1	0.1
BB	763,171	1,663	6,456	2.4	766.1	766.1	766.2	0.1
BC	768,187	1,418	9,136	1.7	767.5	767.5	767.6	0.1

[1]Feet above mouth of Maumee River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ST. MARYS RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ST. MARYS RIVER (CONTINUED)								
BD	773,309[1]	1,707	11,681	1.3	768.5	768.5	768.6	0.1
BE	776,160[1]	1,700	10,305	1.5	769.2	769.2	769.3	0.1
BF	778,747[1]	1,333	8,552	1.8	769.8	769.8	769.9	0.1
BG	780,384[1]	1,485	10,869	1.4	770.5	770.5	770.6	0.1
BH	783,884[1]	258	2,830	5.4	770.9	770.9	771.0	0.1
BI	785,169[1]	1,400	8,502	1.8	772.1	772.1	772.2	0.1
BJ	796,826[1]	1,390	11,453	1.3	773.3	773.3	773.4	0.1
BK	803,836[1]	242	3,474	4.4	774.3	774.3	774.4	0.1
BL	809,068[1]	1,281	7,013	2.2	775.7	775.7	775.7	0.0
BM	813,728[1]	1,201	9,371	1.6	776.6	776.6	776.6	0.0
BN	819,763[1]	1,565	14,161	1.1	777.5	777.5	777.6	0.1
BO	821,563[1]	1,263	10,953	1.4	777.7	777.7	777.7	0.0
MOWRER DITCH								
A	320[2]	155	294	1.6	772.8	772.8	772.9	0.1
B	2,000[2]	109	240	2.0	776.7	776.7	776.8	0.1
C	3,136[2]	80	178	2.7	779.5	779.5	779.6	0.1
D	3,900[2]	117	163	2.9	782.8	782.8	782.8	0.0

[1]Feet above mouth of Maumee River
[2]Feet above confluence with Koester Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ST. MARYS RIVER – MOWRER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
NATURAL DRAIN NO. 2								
A	686[1]	190	600	1.3	806.6	806.6	806.7	0.1
B	1,267[1]	34	122	6.1	808.3	808.3	808.4	0.1
C	1,742[1]	46	206	3.6	811.8	811.8	811.9	0.1
D	2,323[1]	205	895	0.8	812.3	812.3	812.4	0.1
E	2,798[1]	53	287	2.6	814.7	814.7	814.8	0.1
NATURAL DRAIN NO. 7								
A	528[2]	50	281	1.9	816.9	816.9	817.0	0.1
B	1,637[2]	110	286	1.9	818.7	818.7	818.8	0.1
C	2,270[2]	201	425	1.2	820.0	820.0	820.0	0.0
PAUL TRIER DITCH								
A	1,373[3]	600	2,169	1.5	770.5	762.7[4]	762.8	0.1
B	2,534[3]	550	603	5.2	770.5	765.7[4]	765.8	0.1
C	4,013[3]	891	3,602	0.1	770.5	766.5[4]	766.6	0.1
D	6,389[3]	262	157	2.6	770.5	766.8[4]	766.9	0.1
E	8,184[3]	675	598	0.7	770.5	769.1[4]	769.2	0.1
F	10,771[3]	761	1,078	0.4	770.5	770.4[4]	770.5	0.0

[1]Feet above confluence with Spy Run Creek
[2]Feet above confluence with Natural Drain No. 2
[3]Feet above confluence with St. Marys River
[4]Elevation computed without consideration of backwater effects from St. Marys River

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

NATURAL DRAIN NO. 2 – NATURAL DRAIN NO. 7 – PAUL TRIER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
PIERSON DITCH								
A	4,224[1]	173	289	2.4	755.1	755.1	755.2	0.1
B	4,646[1]	250	552	1.3	755.9	755.9	756.0	0.1
C	5,966[1]	544	2,783	0.3	767.9	767.9	767.9	0.0
D	6,600[1]	175	1,167	0.6	768.0	768.0	768.0	0.0
E	8,342[1]	156	692	1.0	768.0	768.0	768.0	0.0
F	9,715[1]	30	77	9.1	769.9	769.9	769.9	0.0
REICHELDERFER DITCH								
A	475[2]	181	287	2.0	749.6	749.6	749.7	0.1
B	1,901[2]	179	273	2.1	751.2	751.2	751.2	0.0
C	4,118[2]	653	1,318	0.4	757.3	757.3	757.4	0.1
D	6,706[2]	89	103	5.1	760.9	760.9	761.0	0.1
E	7,339[2]	365	660	0.8	762.4	762.4	762.5	0.1
F	8,554[2]	29	109	4.9	763.0	763.0	763.1	0.1

[1]Feet above confluence with Maumee River
[2]Feet above confluence with Black Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

PIERSON DITCH – REICHELDERFER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
REVERT DITCH								
A	646[1]	120	192	2.2	790.5	790.5	790.5	0.0
B	1,314[1]	99	162	2.6	792.2	792.2	792.3	0.1
C	2,785[1]	326	413	1.0	795.4	795.4	795.5	0.1
D	3,360[1]	90	99	4.2	796.9	796.9	797.0	0.1
E	3,890[1]	276	406	1.0	798.6	798.6	798.7	0.1
F	4,425[1]	93	156	2.7	799.6	799.6	799.7	0.1
RINGWALT DITCH								
A	300[2]	19	51	3.2	810.8	810.8	810.9	0.1
B	1,028[2]	40	83	1.9	812.2	812.2	812.2	0.0
C	3,200[2]	20	25	6.4	817.0	817.0	817.0	0.0

[1]Feet above confluence with Tiernan Ditch
[2]Feet above confluence with Willow Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

REVERT DITCH - RINGWALT DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ROBINSON CREEK								
A	264[1]	75	461	5.4	755.5	755.3[2]	755.4	0.1
B	2,218[1]	344	2,439	1.0	759.5	759.5	759.6	0.1
C	5,174[1]	773	2,381	1.0	759.8	759.8	759.9	0.1
D	7,075[1]	457	840	3.0	762.2	762.2	762.3	0.1
E	9,029[1]	121	610	3.8	766.3	766.3	766.4	0.1
F	9,240[1]	151	714	3.2	766.7	766.7	766.8	0.1
G	10,085[1]	307	1,072	2.1	767.8	767.8	767.9	0.1
H	12,091[1]	647	2,213	1.0	768.9	768.9	769.0	0.1
I	14,203[1]	279	1,008	2.3	771.9	771.9	772.0	0.1
J	17,635[1]	228	589	3.4	775.2	775.2	775.3	0.1
K	21,120[1]	229	673	2.2	780.1	780.1	780.2	0.1
L	21,859[1]	323	791	1.9	781.1	781.1	781.2	0.1
M	22,598[1]	294	913	1.5	782.9	782.9	783.0	0.1
N	25,027[1]	215	534	2.6	784.9	784.9	785.0	0.1
O	28,248[1]	68	420	3.3	788.2	788.2	788.3	0.1
BRINDLE DITCH								
P	30,043[3]	117	309	2.2	790.7	790.7	790.8	0.1
Q	31,416[3]	84	164	4.1	794.4	794.4	794.5	0.1
R	32,050[3]	229	545	1.2	796.9	796.9	797.0	0.1
S	32,314[3]	104	382	1.8	797.1	797.1	797.2	0.1

[1]Feet above confluence with Little River
[2]Elevation computed without consideration of backwater effects from Little River
[3]Feet above confluence with Robinson Creek

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ROBINSON CREEK – BRINDLE DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ROY DELAGRANGE DITCH								
A	3,017	31	216	3.6	818.9	818.9	818.9	0.0
B	5,340	21	77	10.2	821.1	821.1	821.2	0.1
C	6,449	29	163	4.8	825.5	825.5	825.5	0.0
D	6,554	32	192	3.2	826.6	826.6	826.7	0.1
E	6,818	100	306	2.0	826.9	826.9	827.0	0.1
F	7,188	57	197	3.2	827.2	827.2	827.3	0.1
G	7,716	61	217	2.9	828.1	828.1	828.2	0.1
H	8,191	43	204	3.0	828.8	828.8	828.9	0.1
I	8,719	45	160	3.7	829.3	829.3	829.4	0.1
J	9,194	47	179	3.4	830.5	830.5	830.6	0.1
K	9,775	114	319	1.9	832.4	832.4	832.5	0.1
L	10,303	136	237	2.5	833.1	833.1	833.2	0.1
M	10,726	42	133	4.4	834.3	834.3	834.4	0.1
N	11,412	233	540	1.1	836.3	836.3	836.4	0.1
O	11,782	119	264	2.2	836.4	836.4	836.5	0.1
P	12,732	36	225	2.3	840.8	840.8	840.9	0.1
Q	13,102	254	555	0.9	841.0	841.0	841.1	0.1
R	13,946	133	270	1.8	841.1	841.1	841.2	0.1

[1]Feet above confluence with Ely Run

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

ROY DELAGRANGE DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SALAGY DITCH								
A	1,547[1]	200	502	1.4	768.1	762.2[2]	762.3	0.1
B	3,025[1]	46	292	2.4	776.0	776.0	776.0	0.0
C	4,451[1]	200	1,094	0.6	779.8	779.8	779.8	0.0
D	5,771[1]	71	281	2.5	780.2	780.2	780.2	0.0
E	7,249[1]	31	166	3.1	783.7	783.7	783.9	0.2
F	8,833[1]	585	1,106	0.5	786.6	786.6	786.7	0.1
SCHMIDT DITCH								
A	1,056[3]	191	808	1.2	770.9	770.9	771.0	0.1
B	2,482[3]	231	634	1.6	771.9	771.9	772.0	0.1
C	3,485[3]	223	683	1.5	773.1	773.1	773.2	0.1
D	4,646[3]	197	484	2.1	774.7	774.7	774.8	0.1
E	6,072[3]	225	676	1.5	777.0	777.0	777.1	0.1
F	7,550[3]	194	395	2.5	779.2	779.2	779.3	0.1
G	8,554[3]	301	819	1.1	781.7	781.7	781.7	0.0
H	9,134[3]	218	436	2.1	782.0	782.0	782.0	0.0
I	10,824[3]	209	514	1.7	785.2	785.2	785.3	0.1
J	12,778[3]	254	588	1.5	788.5	788.5	788.6	0.1
K	13,675[3]	36	210	3.1	791.3	791.3	791.4	0.1
L	15,576[3]	36	196	3.4	793.9	793.9	793.9	0.0

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River
[3]Feet above confluence with Bender Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SALAGY DITCH – SCHMIDT DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SCHOPPMAN DITCH								
A	1,373[1]	50[2]	279	1.6	764.6	764.0[3]	764.0	0.0
B	2,957[1]	18[2]	46	9.1	769.8	769.8	769.8	0.0
SEEGAR DITCH								
A	1,214[4]	196	833	3.0	807.2	807.2	807.3	0.1
B	4,171[4]	268	857	3.0	812.1	812.1	812.2	0.1
C	6,494[4]	122	682	3.4	818.3	818.3	818.4	0.1
D	8,342[4]	345	1,448	1.6	820.5	820.5	820.6	0.1
E	9,768[4]	256	906	2.6	821.9	821.9	822.0	0.1
F	16,368[4]	124	973	2.2	834.2	834.2	834.2	0.0
G	19,272[4]	146	831	2.6	834.9	834.9	835.0	0.1
H	22,757[4]	453	1,451	1.0	836.4	836.4	836.5	0.1
I	23,549[4]	619	2,175	0.7	836.5	836.5	836.6	0.1
J	28,776[4]	97	316	4.5	838.6	838.6	838.7	0.1
K	31,099[4]	234	694	1.9	842.1	842.1	842.2	0.1
L	32,894[4]	44	363	3.6	843.6	843.6	843.7	0.1
M	33,792[4]	499	1,425	0.9	844.0	844.0	844.1	0.1
N	35,851[4]	190	728	1.1	844.3	844.3	844.4	0.1
O	37,435[4]	645	1,369	0.6	844.4	844.4	844.5	0.1
P	39,442[4]	156	543	1.5	845.0	845.0	845.1	0.1

[1]Feet above confluence with St. Joseph River
[2]Floodway contained in channel
[3]Elevation computed without consideration of backwater effects from St. Joseph River
[4]Feet above confluence with Beal Taylor Ditch

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SCHOPPMAN DITCH – SEEGAR DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SIXMILE CREEK								
A	1,954[1]	30	255	4.7	747.1	737.9[2]	738.0	0.1
B	4,118[1]	62	247	4.9	747.1	744.4[2]	744.5	0.1
C	6,811[1]	202	483	2.5	751.5	751.5	751.6	0.1
KOESTER DITCH								
D	9,293[3]	178	562	2.1	756.6	756.6	756.7	0.1
E	10,613[3]	200[4]	209	5.7	759.7	759.7	759.8	0.1
F	13,886[3]	321	937	1.1	766.9	766.9	767.0	0.1
G	15,629[3]	230[4]	198	5.0	770.8	770.8	770.9	0.1
LANGLEY DITCH								
H	18,480[3]	66	261	2.4	775.9	775.9	775.9	0.0
SMITH-NORTHRUP DRAIN								
A	1,214[5]	177	466	1.0	776.5	776.2[6]	776.2	0.0
B	1,531[5]	200	375	1.3	777.2	777.2	777.2	0.0
C	3,168[5]	127	116	4.1	782.9	782.9	782.9	0.0
D	3,960[5]	98	222	2.2	791.0	791.0	791.0	0.0
E	5,174[5]	82	157	3.1	795.2	795.2	795.3	0.1

[1]Feet above confluence with Maumee River
[2]Elevation computed without consideration of backwater effects from Maumee River
[3]Feet above mouth of Sixmile Creek
[4]Administrative floodway established at cross section by IDNR
[5]Feet above confluence with St. Joseph River
[6]Elevation computed without consideration of backwater effects from St. Joseph River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SIXMILE CREEK – KOESTER DITCH – LANGLEY DITCH – SMITH-NORTHRUP DRAIN

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SNYDER DITCH								
A	1,795	300	2,108	0.7	768.3	767.2[2]	767.3	0.1
B	3,643	201	514	2.9	768.3	768.1[2]	768.2	0.1
C	7,286	275	843	1.8	774.0	774.0	774.1	0.1
D	9,029	270	1,067	1.3	778.2	778.2	778.3	0.1
E	9,715	277	1,116	1.2	779.1	779.1	779.2	0.1
F	11,458	211	602	2.2	779.8	779.8	779.9	0.1
G	14,467	278	607	1.6	782.8	782.8	782.9	0.1
H	16,843	197	547	1.8	786.0	786.0	786.0	0.0
I	19,008	308	750	1.3	788.2	788.2	788.2	0.0
J	20,645	621	1,667	0.5	790.5	790.5	790.5	0.0
K	24,235	467	885	0.9	792.0	792.0	792.1	0.1
L	28,512	266	586	1.4	795.7	795.7	795.8	0.1
M	29,990	580	1,069	0.8	797.9	797.9	798.0	0.1
N	31,152	298	869	0.9	798.2	798.2	798.3	0.1
O	33,053	546	753	1.1	798.9	798.9	799.0	0.1

[1]Feet above confluence with St. Marys River
[2]Elevation computed without consideration of backwater effects from St. Marys River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SNYDER DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SPY RUN CREEK								
A	4,699	160	760	3.1	757.6	757.6	757.7	0.1
B	5,861	170	855	2.7	759.8	759.8	759.8	0.0
C	7,234	69	496	4.7	762.0	762.0	762.1	0.1
D	7,762	265	866	2.7	762.8	762.8	762.9	0.1
E	8,501	250	637	3.7	764.6	764.6	764.6	0.0
F	9,557	48	302	7.8	765.7	765.7	765.8	0.1
G	10,243	275	769	3.1	768.6	768.6	768.6	0.0
H	10,560	250	529	4.4	769.5	769.5	769.5	0.0
I	11,088	259	1,364	1.7	771.6	771.6	771.6	0.0
J	11,880	540	2,121	1.1	772.2	772.2	772.3	0.1
K	14,414	540	2,034	1.2	775.3	775.3	775.4	0.1
L	14,784	195	831	2.8	775.5	775.5	775.6	0.1
M	16,685	146	730	2.2	778.5	778.5	778.6	0.1
N	19,589	455	1,372	1.2	783.7	783.7	783.8	0.1
O	21,067	281	1,030	1.6	786.9	786.9	787.0	0.1
P	22,229	85	502	2.9	790.5	790.5	790.6	0.1
Q	23,760	150	634	2.3	794.7	794.7	794.7	0.0
R	24,869	180	810	1.5	795.9	795.9	796.0	0.1
S	26,189	305	1,135	1.1	798.7	798.7	798.7	0.0

[1]Feet above confluence with St. Marys River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SPY RUN CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SPY RUN CREEK (CONTINUED)								
T	27,773	340	1,163	1.1	799.8	799.8	799.9	0.1
U	28,459	270	589	2.1	800.8	800.8	800.9	0.1
V	31,522	136	366	2.2	804.6	804.6	804.7	0.1
W	33,000	370	1,173	0.7	810.6	810.6	810.7	0.1
X	35,851	39	94	5.9	818.5	818.5	818.6	0.1
Y	36,907	158	331	1.7	822.9	822.9	823.0	0.1
Z	37,752	65	194	2.8	825.4	825.4	825.5	0.1

[1]Feet above confluence with St. Marys River

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ST. JOSEPH RIVER								
A	845	289	5,903	2.9	756.9	756.9	757.0	0.1
B	2,693	278	5,866	2.9	757.5	757.5	757.6	0.1
C	4,382	327	7,180	2.4	757.9	757.9	758.0	0.1
D	5,438	390	8,903	1.9	758.1	758.1	758.2	0.1
E	5,966	244	5,131	3.4	758.1	758.1	758.2	0.1
F	7,181	164	3,480	4.9	758.4	758.4	758.5	0.1
G	9,346	263	4,650	3.7	759.1	759.1	759.2	0.1
H	10,613	335	5,828	3.0	759.5	759.5	759.6	0.1
I	12,566	228	4,402	3.9	759.9	759.9	760.0	0.1
J	14,573	558	6,704	2.6	760.6	760.6	760.7	0.1
K	15,259	721	5,668	3.0	761.9	761.9	762.0	0.1
L	15,998	381	5,456	3.2	762.2	762.2	762.3	0.1
M	17,424	697	7,776	2.2	762.6	762.6	762.7	0.1
N	21,067	580	6,134	2.8	763.6	763.6	763.7	0.1
O	24,446	309	5,166	3.3	764.6	764.6	764.7	0.1
P	28,142	625	6,133	2.8	765.5	765.5	765.6	0.1
Q	30,096	713	6,309	2.7	766.2	766.2	766.3	0.1
R	32,419	1,476	8,138	2.1	767.2	767.2	767.3	0.1
S	35,006	1,316	11,711	1.5	767.9	767.9	768.0	0.1

[1]Feet above confluence with Maumee River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

ST. JOSEPH RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ST. JOSEPH RIVER (CONTINUED)								
T	39,600	1,009	7,161	2.4	768.1	768.1	768.2	0.1
U	44,405	1,289	9,443	1.8	769.5	769.5	769.6	0.1
V	49,790	409	4,693	3.7	770.9	770.9	771.0	0.1
W	52,430	556	4,330	4.0	772.0	772.0	772.1	0.1
X	56,602	986	7,653	2.2	773.7	773.7	773.7	0.0
Y	59,928	1,775	10,767	1.6	774.6	774.6	774.7	0.1
Z	64,522	2,099	15,259	1.1	775.3	775.3	775.4	0.1
AA	66,422	1,081	8,683	2.0	775.5	775.5	775.6	0.1
AB	68,165	516	4,863	3.5	776.0	776.0	776.1	0.1
AC	70,013	779	6,804	2.5	776.9	776.9	777.0	0.1
AD	72,843	229	3,358	4.1	778.0	778.0	778.1	0.1
AE	75,005	2,143	12,624	1.1	778.5	778.5	778.6	0.1
AF	80,085	1,306	8,925	1.5	779.3	779.3	779.4	0.1
AG	85,525	1,288	6,107	2.2	779.9	779.9	780.0	0.1
AH	88,215	194	2,608	5.3	780.0	780.0	780.1	0.1
AI	91,527	340	3,314	4.1	780.7	780.7	780.8	0.1
AJ	94,647	333	3,431	3.9	781.8	781.8	781.9	0.1
AK	100,247	335	3,776	3.6	783.5	783.5	783.6	0.1

[1]Feet above confluence with Maumee River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

ST. JOSEPH RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
ST. JOSEPH RIVER (CONTINUED)								
AL	105,693	403	3,534	3.8	785.2	785.2	785.3	0.1
AM	109,043	666	4,072	3.3	786.7	786.7	786.8	0.1
AN	115,717	657	5,748	2.3	789.2	789.2	789.3	0.1
AO	117,347	210	3,141	4.3	789.5	789.5	789.6	0.1
AP	120,307	613	5,257	2.6	790.3	790.3	790.4	0.1
AQ	122,467	773/373[2]	5,973	2.1	790.9	790.9	791.0	0.1
AR	124,727	1,746/1,439[2]	15,766	0.8	791.3	791.3	791.4	0.1

[1]Feet above confluence with Maumee River
[2]Total width/width within county

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

ST. JOSEPH RIVER

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
SUMNER DRAIN								
A	1,214[1]	97	160	3.9	762.5	761.4[2]	761.4	0.0
B	4,224[1]	26	68	9.2	772.8	772.8	772.8	0.0
C	5,386[1]	70	185	3.4	781.3	781.3	781.4	0.1
D	7,022[1]	77	162	3.0	787.7	787.7	787.7	0.0
E	8,078[1]	28	107	4.5	791.7	791.7	791.7	0.0
SUTER DITCH								
A	950[3]	280	217	4.2	779.6	779.6	779.7	0.1
B	1,214[3]	366	437	2.1	780.9	780.9	780.9	0.0
C	3,432[3]	100	259	3.5	785.0	785.0	785.1	0.1
D	4,171[3]	221	507	1.8	786.4	786.4	786.5	0.1
E	5,333[3]	78	213	4.2	788.9	788.9	789.0	0.1
SWIFT DITCH								
A	1,109[1]	21[4]	57	8.2	768.0	766.4[2]	766.4	0.0
B	2,165[1]	50	85	5.5	778.6	778.6	778.6	0.0
C	2,746[1]	120	68	6.9	786.3	786.3	786.3	0.0
D	3,168[1]	203	422	1.1	787.2	787.2	787.2	0.0

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River
[3]Feet above confluence with Robinson Creek
[4]Floodway contained in channel

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

SUMNER DRAIN – SUTER DITCH – SWIFT DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TIERNAN DITCH								
A	1,531	249	757	1.7	771.5	768.3[2]	768.4	0.1
B	2,851	279	1,024	1.3	773.4	773.4	773.5	0.1
C	3,379	210	650	2.0	773.8	773.8	773.9	0.1
D	4,805	173	573	2.3	776.7	776.7	776.8	0.1
E	5,861	268	691	1.9	778.6	778.6	778.7	0.1
F	8,395	418	1,064	1.2	783.7	783.7	783.8	0.1
G	13,042	326	313	2.4	792.5	792.5	792.6	0.1
H	13,992	580	1,614	0.5	792.8	792.8	792.9	0.1
I	14,784	718	1,319	0.6	792.9	792.9	793.0	0.1
J	17,530	397	690	1.1	797.7	797.7	797.8	0.1
K	19,114	225	339	2.2	800.6	800.6	800.7	0.1
L	21,014	250	593	1.3	806.1	806.1	806.2	0.1
M	23,179	230	564	0.9	810.3	810.3	810.3	0.0
N	23,918	197	285	1.8	810.6	810.6	810.6	0.0
O	25,766	230	495	1.0	813.0	813.0	813.0	0.0

[1]Feet above confluence with St. Joseph River
[2]Elevation computed without consideration of backwater effects from St. Joseph River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

DRAFT

FLOODWAY DATA

TIERNAN DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
TRIER DITCH								
A	2,957[1]	71	518	8.9	749.0	741.0[2]	741.1	0.1
B	6,019[1]	87	797	5.8	750.3	750.3	750.4	0.1
C	7,920[1]	58	772	6.0	754.8	754.8	754.9	0.1
D	11,299[1]	277	1,685	1.3	757.0	757.0	757.1	0.1
E	16,157[1]	1,183	2,785	0.8	760.7	760.7	760.8	0.1
F	19,536[1]	406	482	3.9	762.9	762.9	763.0	0.1
G	21,278[1]	400	339	5.6	764.4	764.4	764.5	0.1
H	23,707[1]	1,158	3,114	0.5	766.2	766.2	766.3	0.1
I	26,189[1]	591	1,838	0.5	767.1	767.1	767.2	0.1
J	29,410[1]	477	885	1.0	768.8	768.8	768.8	0.0
K	34,320[1]	850	1,515	0.3	769.3	769.3	769.4	0.1
UNNAMED TRIBUTARY NO. 1								
A	1,637[3]	24	55	8.6	765.6	765.6	765.6	0.0
WATERS DITCH								
A	401[4]	90	182	2.3	790.3	790.3	790.4	0.1
B	4,330[4]	30	172	2.4	800.0	800.0	800.0	0.0

[1]Feet above confluence with Maumee River
[2]Elevation computed without consideration of backwater effects from Maumee River
[3]Feet above confluence with St. Joseph River
[4]Feet above confluence with Becketts Run

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

TRIER DITCH – UNNAMED TRIBUTARY NO. 1 – WATERS DITCH

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
WHITMER DITCH								
A	2,784[1]	250	961	1.1	785.1	785.1	785.2	0.1
B	3,260[1]	165	448	2.3	785.3	785.3	785.4	0.1
C	4,949[1]	66	127	8.0	790.4	790.4	790.4	0.0
D	5,319[1]	187	741	1.2	793.5	793.5	793.5	0.0
E	7,536[1]	120	182	4.9	799.1	799.1	799.2	0.1
F	9,384[1]	139	318	2.7	805.4	805.4	805.5	0.1
G	11,708[1]	28	92	4.4	809.6	809.6	809.6	0.0
WILLOW CREEK								
A	1,795[2]	408	666	2.4	810.1	808.9[3]	808.9	0.0
B	4,118[2]	433	1,075	1.5	811.5	811.5	811.6	0.1
C	5,438[2]	263	1,501	1.1	813.4	813.4	813.5	0.1
D	8,184[2]	113	536	2.4	819.3	819.3	819.3	0.0
E	10,824[2]	37	206	3.1	820.8	820.8	820.8	0.0
F	12,830[2]	40	221	2.7	821.7	821.7	821.8	0.1
G	15,259[2]	40	215	2.7	823.1	823.1	823.1	0.0
H	16,474[2]	46	254	2.3	823.7	823.7	823.7	0.0
I	18,638[2]	37	190	1.8	824.4	824.4	824.4	0.0
J	19,325[2]	31	140	2.5	824.6	824.6	824.6	0.0

[1]Feet above confluence with St. Joseph River
[2]Feet above confluence with Cedar Creek
[3]Elevation computed without consideration of backwater effects from Cedar Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

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FLOODWAY DATA

WHITMER DITCH – WILLOW CREEK

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
HATCH DITCH								
K	19,958[1]	14	27	8.0	825.1	825.1	825.1	0.0
L	21,701[1]	17	29	7.4	830.0	830.0	830.0	0.0
M	22,651[1]	19	56	2.2	833.6	833.6	833.6	0.0
WILLOW CREEK BRANCH NO. 7								
A	2,482[2]	28	106	2.6	826.5	826.5	826.5	0.0
B	5,386[2]	38	135	2.1	828.8	828.8	828.8	0.0
C	8,184[2]	34	101	2.8	833.8	833.8	833.8	0.0
D	8,976[2]	30	70	4.0	835.9	835.9	835.9	0.0
WILLOW CREEK BRANCH NO. 8								
A	459[2]	60	239	4.4	820.0	820.0	820.0	0.0
B	1,584[2]	79	384	2.7	821.9	821.9	821.9	0.0
C	3,179[2]	56	382	2.8	822.8	822.8	822.9	0.1
D	4,900[2]	134	533	2.0	823.7	823.7	823.8	0.1
E	8,258[2]	50	292	3.4	826.7	826.7	826.8	0.1
F	11,711[2]	80	445	2.2	830.1	830.1	830.1	0.0
G	13,100[2]	75	374	2.6	831.1	831.1	831.1	0.0
H	17,915[2]	42[3]	298	3.3	837.8	837.8	837.8	0.0
I	20,112[2]	37[3]	148	4.1	840.2	840.2	840.2	0.0
J	22,065[2]	36[3]	153	3.9	844.2	844.2	844.2	0.0

[1]Feet above confluence with Cedar Creek
[2]Feet above confluence with Willow Creek
[3]Floodway contained in channel

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

HATCH DITCH – WILLOW CREEK BRANCH NO. 7 – WILLOW CREEK BRANCH NO. 8

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD)	WITHOUT FLOODWAY (FEET NAVD)	WITH FLOODWAY (FEET NAVD)	INCREASE (FEET)
WOODS DITCH								
A	201	235	500	1.9	790.9	790.9	791.0	0.1
B	4,056	405	891	1.0	795.9	795.9	796.0	0.1
C	6,062	141	273	3.2	797.5	797.5	797.6	0.1
D	7,382	374	600	1.4	800.2	800.2	800.3	0.1
E	9,283	89	197	4.1	802.6	802.6	802.7	0.1
F	9,705	251	641	1.0	805.3	805.3	805.4	0.1
G	12,081	545	676	0.9	806.7	806.7	806.8	0.1
H	13,190	175	345	1.7	807.5	807.5	807.6	0.1
I	14,193	97	185	2.9	810.8	810.8	810.9	0.1

[1]Feet above confluence with Robinson Creek-Brindle Ditch

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TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

FLOODWAY DATA

WOODS DITCH

The floodways have been computed in accordance with the guidelines set out by the IDNR (Reference 21), with the exception of floodways that are manually smoothed applying the Method 1 encroachment approach, specifying the encroachment stations at individual cross sections.

The area between the floodway and 1-percent-annual-chance floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the WSEL of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 1.

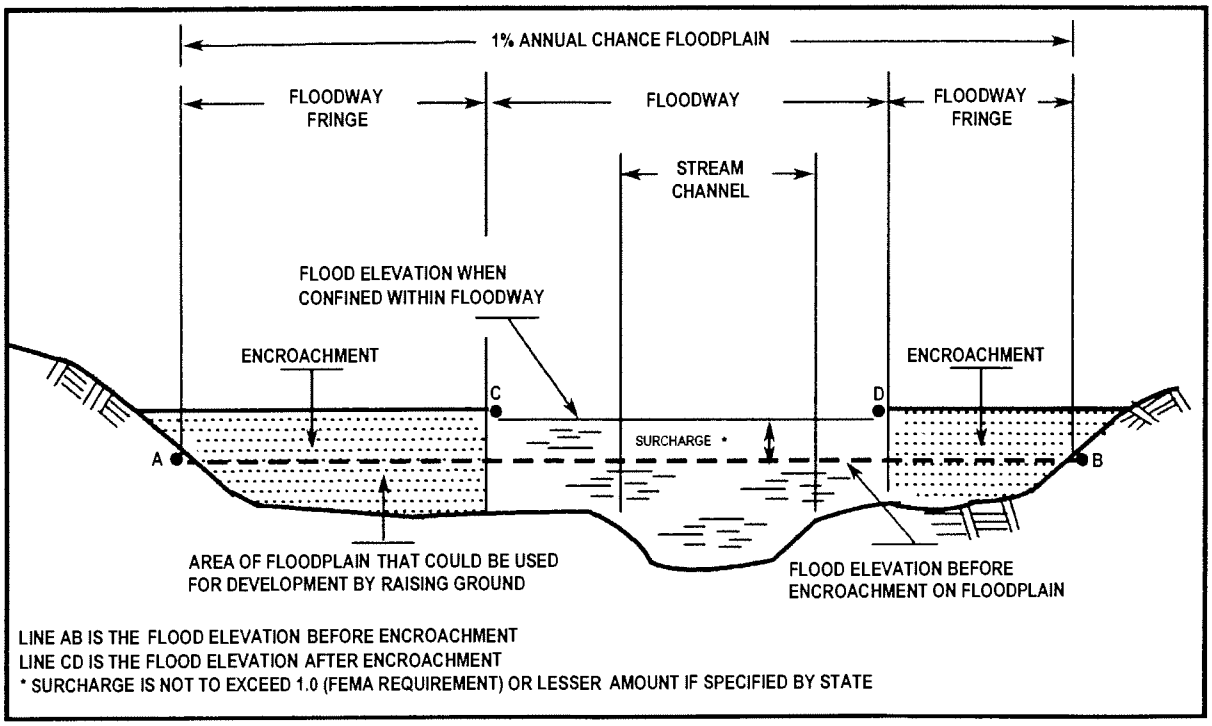

Figure 1 - Floodway Schematic

No floodways were computed for Junk Ditch, Little River, and St. Marys Flowage.

5.0 INSURANCE APPLICATIONS

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or base flood depths are shown within this zone.

Zone AE

Zone AE is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by detailed methods. In most instances, whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or base flood depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance risk zones as described in Section 5.0 and, in the 1-percent-annual-chance floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1- and 0.2-percent-annual-chance floodplains, floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

The countywide FIRM presents flooding information for the entire geographic area of Allen County. Previously, FIRMs were prepared for each incorporated community and the unincorporated areas of the County identified as flood-prone. This countywide FIRM

also includes flood-hazard information that was presented separately on Flood Boundary and Floodway Maps, where applicable. Historical data relating to the maps prepared for each community are presented in Table 4.

7.0 OTHER STUDIES

Previous FIS reports have been prepared for Adams County, Indiana and Incorporated Areas (Reference 21), Defiance County, Ohio (Unincorporated Areas) (Reference 22), DeKalb County, Indiana (Unincorporated Areas) (Reference 23), Huntington County, Indiana (Unincorporated Areas) (Reference 24), Noble County, Indiana (Unincorporated Areas) (Reference 25), Paulding County, Ohio (Unincorporated Areas) (Reference 26), and Wells County, Indiana (Unincorporated Areas) (Reference 27).

This report either supersedes or is compatible with all previous studies on streams studied in this report and should be considered authoritative for purposes of the NFIP.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA, Federal Insurance and Mitigation Division, 536 South Clark Street, Sixth Floor, Chicago, Illinois 60605.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDAY MAP REVISION DATE	FIRM EFFECTIVE DATE	FIRM REVISION DATE
Allen County (Unincorporated Areas)	February 27, 1976	None	September 28, 1990	November 5, 2003 March 2, 1998 February 16, 1995
Fort Wayne, City of	February 15, 1974	January 30, 1976	April 3, 1985	November 5, 2003 March 2, 1998 February 16, 1995 September 28, 1990
Grabill, Town of	February 27, 1976	None	September 28, 1990	November 5, 2003 March 2, 1998 February 16, 1995
Huntertown, Town of	May 31, 1974	April 9, 1976	November 2, 1983	November 5, 2003 March 2, 1998 February 16, 1995 September 28, 1990
Leo-Cedarville, Town of	February 27, 1976	None	September 28, 1990	November 5, 2003 March 2, 1998 February 16, 1995
Monroeville, Town of	September 28, 1990	None	September 28, 1990	November 5, 2003 March 2, 1998 February 16, 1995

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDAY MAP REVISION DATE	FIRM EFFECTIVE DATE	FIRM REVISION DATE
New Haven, City of	December 14, 1973	May 21, 1976	July 18, 1983	November 5, 2003 March 2, 1998 February 16, 1995 September 28, 1990 November 19, 1986
Woodburn, City of	September 28, 1990	None	September 28, 1990	November 5, 2003 March 2, 1998 February 16, 1995

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

ALLEN COUNTY, IN
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

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9.0 BIBLIOGRAPHY AND REFERENCES

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